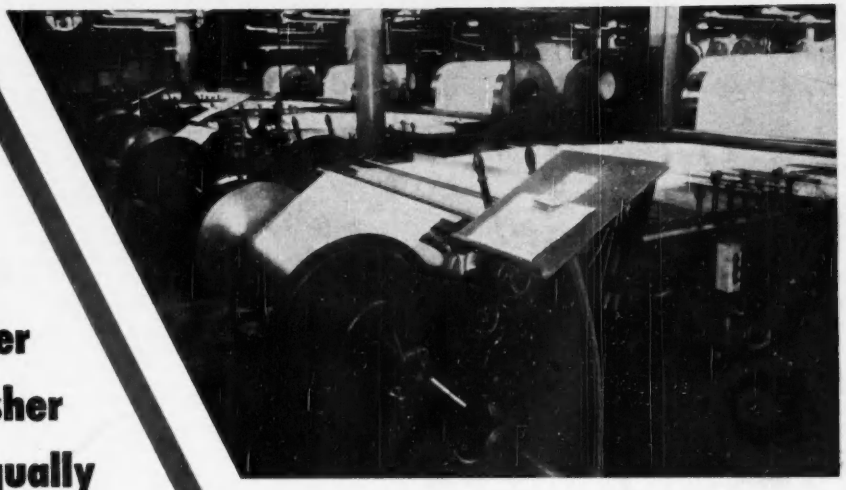
Textile
COTTON
Textile Industries
Industries



A battery of Cocker 9-Cylinder Slashers. ...urtesy Marion Manufactur-... Company, Marion, N. C.

The Cocker High Speed 9-Cylinder Slasher Equally Efficient on

Cotton—Rayon—Spuns
Acetates and Nylon

Finger Tip Tension Control

Speed changes while in operation

Patented Friction Control

and numerous other valuable features

Versatility that pays off

When the Marion Manufacturing Company bought these four High Speed Cocker 9-Cylinder Slashers to replace their old large-cylinder machines, they contemplated the possibility of running both cotton and synthetics and wanted slashers which would run these fibres with equal efficiency. The Cocker High Speed Slashers filled the bill perfectly.

For flexibility to meet changing conditions, install this versatile Cocker High Speed 9-Cylinder Slasher in your mill. Write or wire for full information.

Cocker Machine and Foundry Co., Gastonia, N. C.

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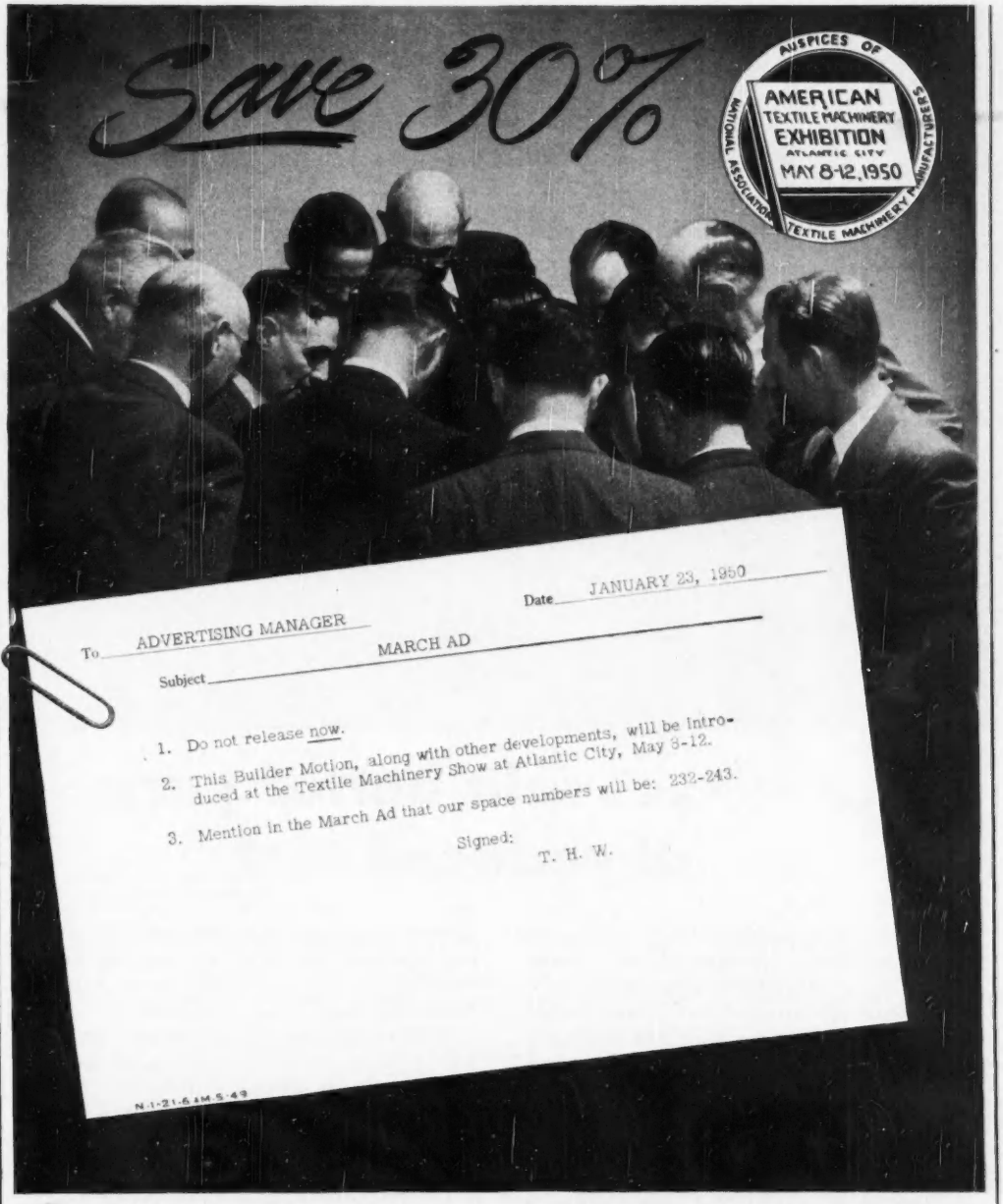
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Date JANUARY 23, 1950
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3. Mention in the March Ad that our space numbers will be: 232-243.
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T. H. W.
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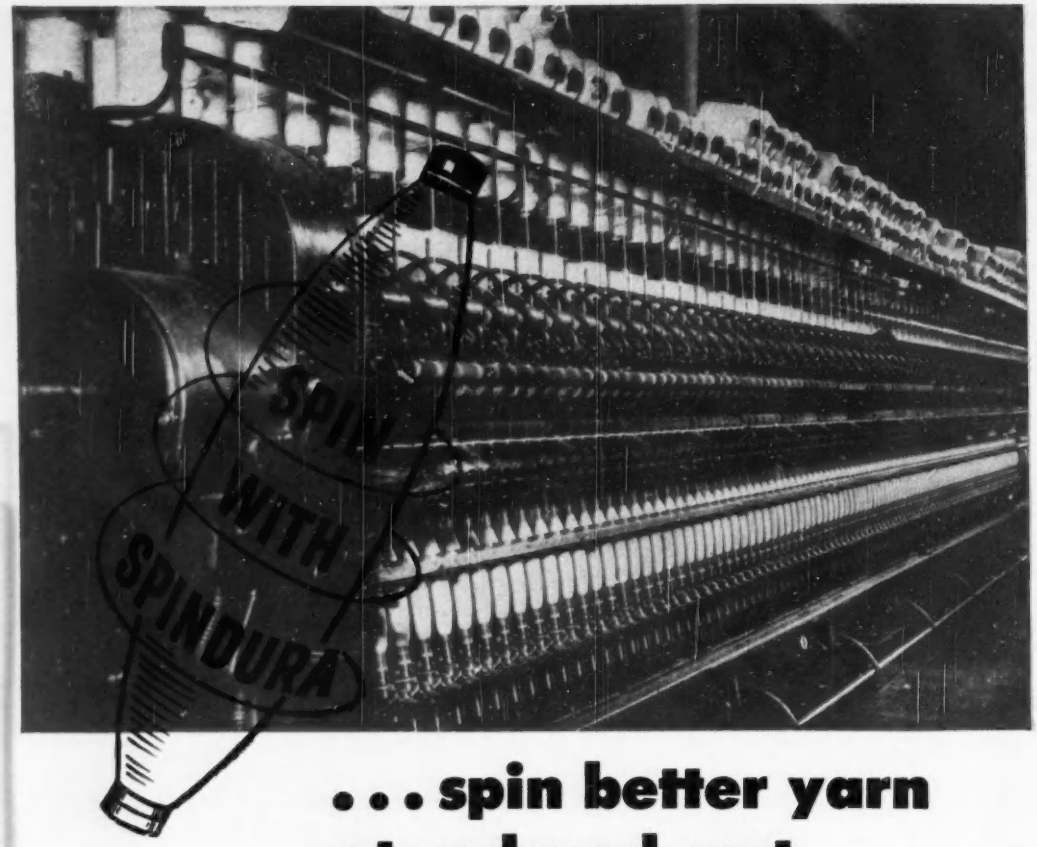

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FOR THE TEXTILE INDUSTRY

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Textile Industries

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March, 1950

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Maynard L. Durham
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Business Representatives

ARTHUR C. SHAW, 11 Monroe Road, Wellesley Hills, Mass. (Wellesley 3648).

WILLIAM K. HOFFMAN, 58 Euclid Ave., Maplewood, N. J. (South Orange 2-2484).

L. E. ALLEN, Madison-LaSalle Bldg., 173 West Madison St., Chicago, Illinois (Franklin 2086).

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LOYD B. CHAPPELL, Auditorium Bldg., 427 West 5th St., Los Angeles, California (Michigan 9849).

John C. Fonville
Editor

ASSOCIATES

J. Frank Guest
Milton C. May
H. B. Anderson
Hunter Hughes
P. O. Box 968
Rock Hill, S. C.
Paul M. Platzman
Great Neck, N. Y.
Phone: 2-7310

CONSULTING EDITORS

F. Gordon Cobb
Ben H. Crawford
J. A. Moody

Production Manager

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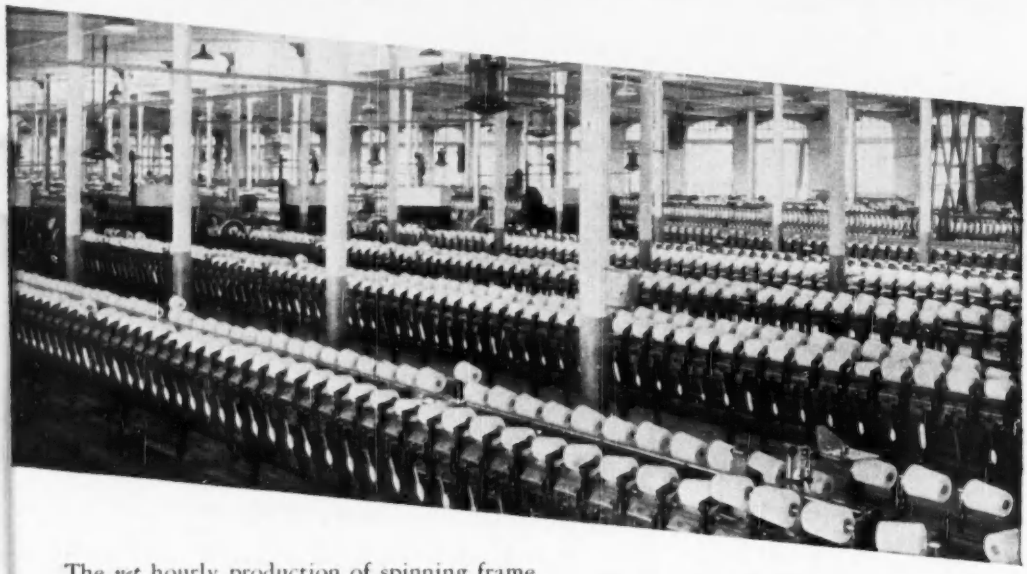
CHECK YOUR PRODUCTION AND COST OF WINDING AGAINST THE ABBOTT AUTOMATIC WINDER



The *net* hourly production of spinning frame bobbins automatically tied in and wound onto cones or tubes with an Abbott *Automatic* Winder is between 800 and 1000 per machine per operator.

The *net* hourly production per Winder per operator, using a 4 ounce bobbin, is from 200 to 250 pounds . . . using an 8 ounce bobbin, from 400 to 500 pounds.

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ABBOTT MACHINE COMPANY

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MITIN

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PROOFING

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Again, to be sure MITIN is properly applied for maximum performance Geigy is making periodic tests, on a regular schedule, of mill-run samples of all who use MITIN. Tests are carried out by Geigy analytical chemists and entomologists at 62 West 2nd Street — our ultra-modern laboratory in Bayonne, N. J.

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62 West 2nd Street and Geigy Dyehouse Technicians serve the mill from the preliminary tests right through to the periodic checking of mill runs, all in the interest of sustaining the mill in the labeling of its products and the zealous guarding of the mill's good will.

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Makes the public buy

Send TODAY for descriptive literature and scientific data, or ask to have a well-trained, thoroughly grounded Geigy specialist call on you.

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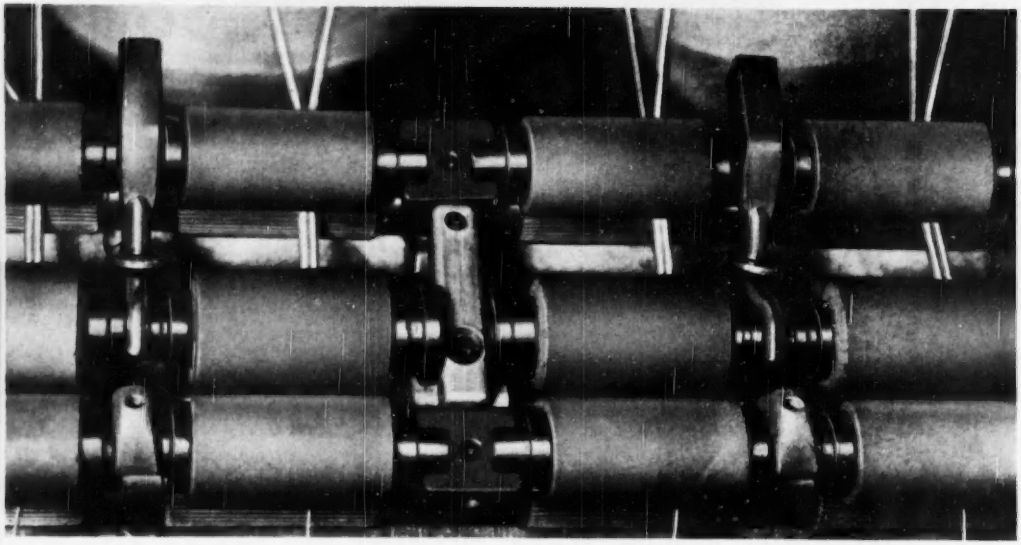
S-L-T NEEDLE BEARING TOP ROLL

FOR ROVING AND SPINNING



Requires only annual lubrication... Shells interchangeable from arbor to arbor... Shell covering interchangeable at will... No yarn spoilage from black oil... these are a few of the

18 Money- and Time-Saving Features of this new S-L-T Needle Bearing TOP ROLL, described in detail in a series of mailing pieces prepared for Management, Supervisors and Textile Engineers who are desirous of keeping up with the latest developments in the industry. If you are not receiving this series, a request to our nearest sales office will bring them to you.

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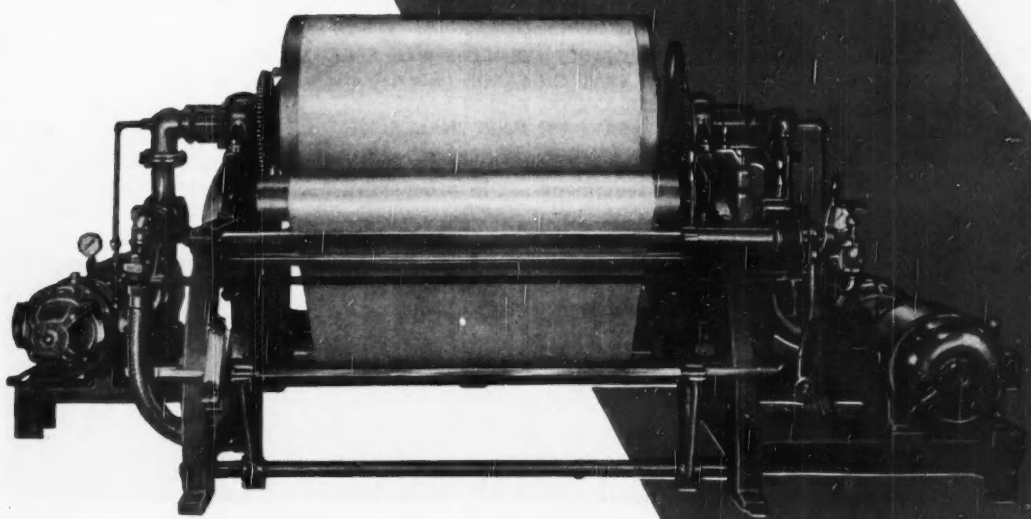

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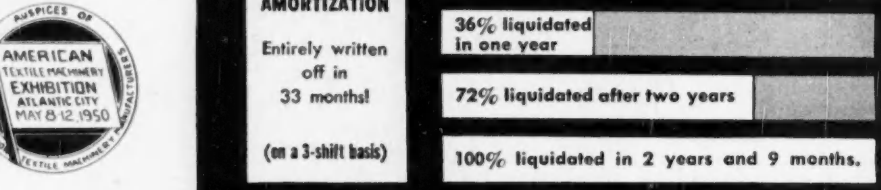

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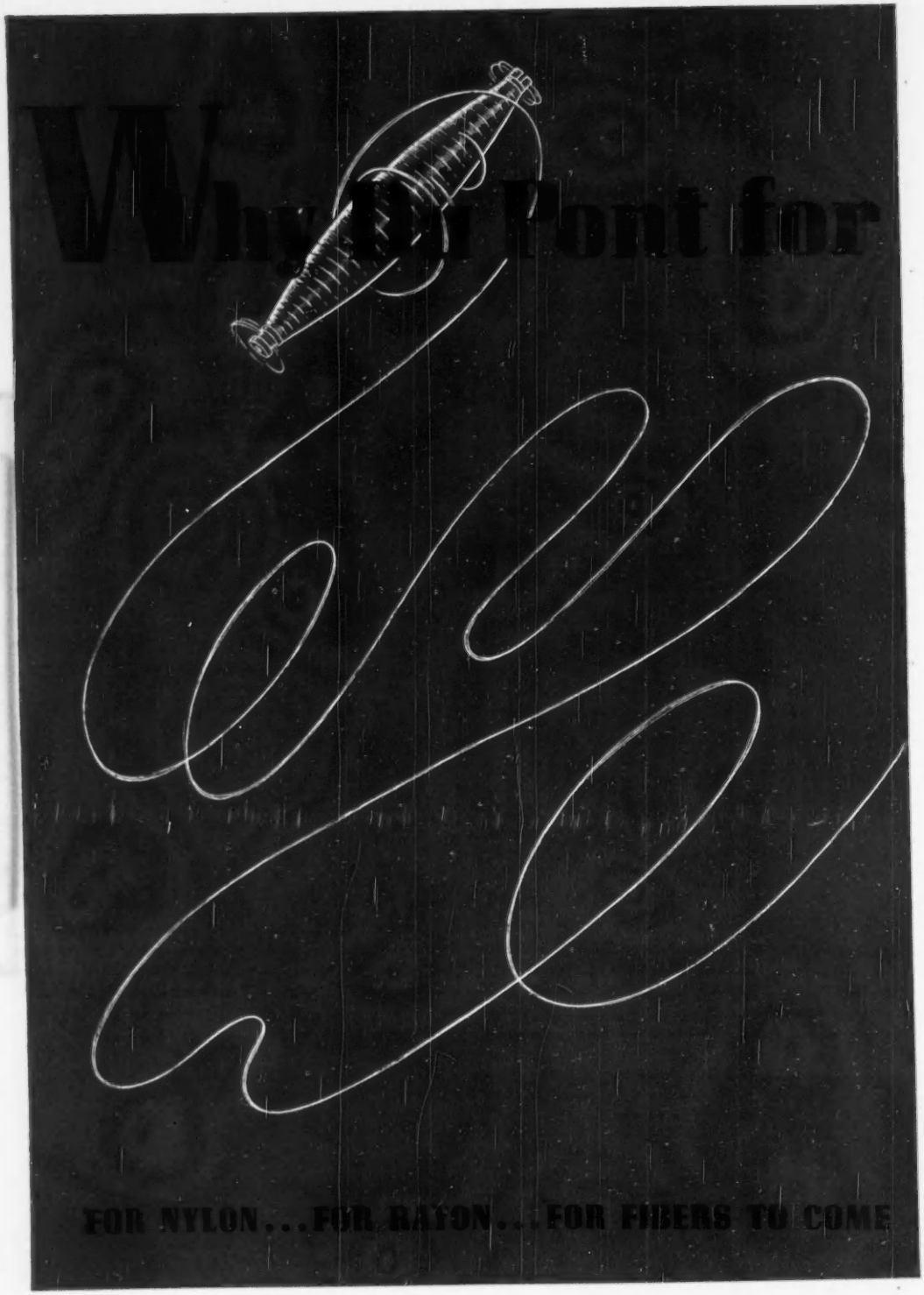
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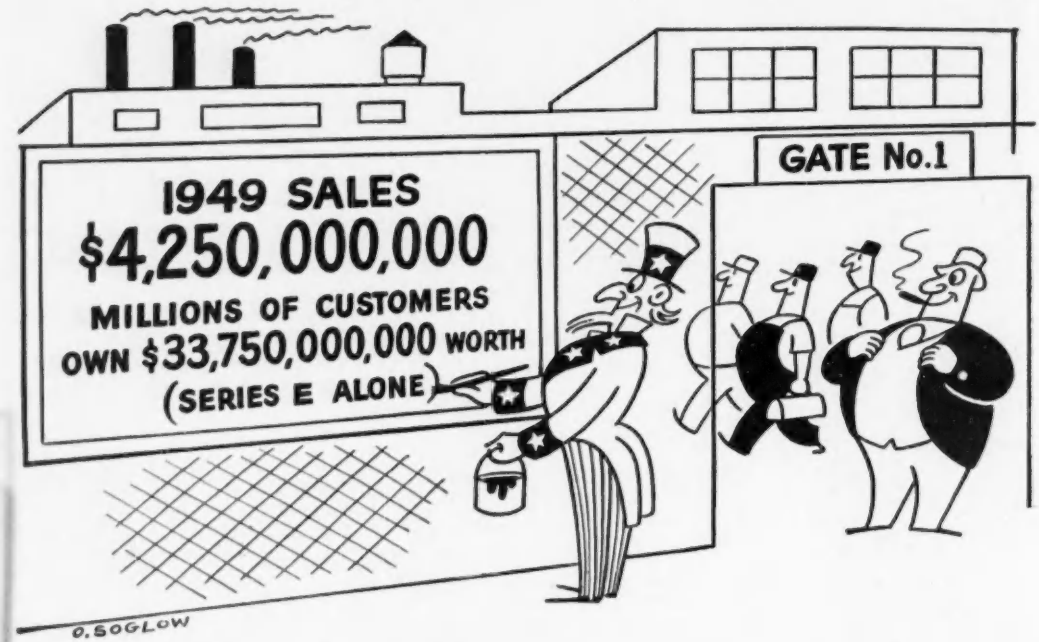

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1. See that top management sponsors the Plan.
2. Secure the help of the employee organizations in promoting it.
3. Adequately use posters and leaflets and run stories and editorials in company publications to inform employees of the Plan's benefits to them.
4. Make a person-to-person canvass once a year, to sign up participants.
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For all the help you need, get in touch with your State Director, U. S. Treasury Department, Savings Bonds Division—or write the Savings Bonds Division, Treasury Department, Washington, D. C.

The Treasury Department acknowledges with appreciation the publication of this message by

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Sylvania Cellophane MS-1 in the 450 gauge is the overwrap on this towel package.

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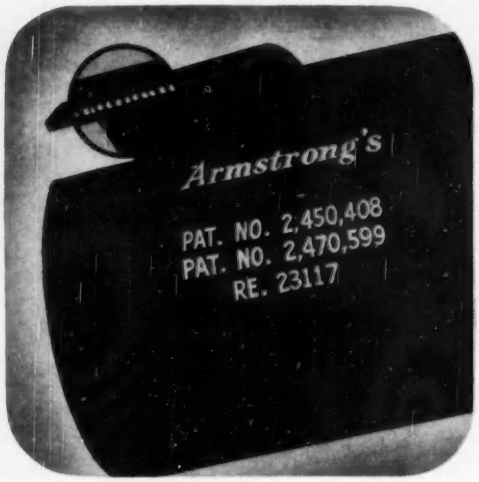
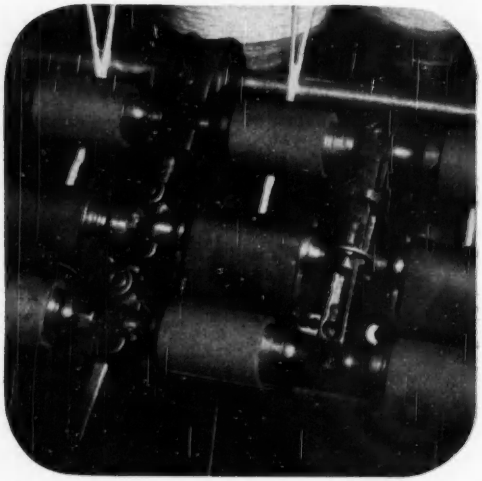
1. SEAMLESS. Continuous layers of Accotex rubber provide smooth wearing surfaces on both inside and outside of the apron. Accotex Aprons won't crack or break open. Because they are seamless, they cannot cause irregular slip-roll action.



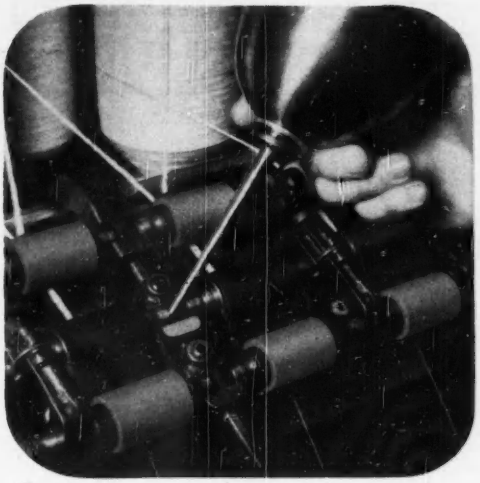
2. BUILT-IN CORD LINER. To reinforce the seamless rubber faces, a sturdy cord interliner is vulcanized in the apron. This feature, developed at Armstrong, absolutely prevents premature apron failure caused by stretching and curled edges.

Why these synthetic aprons

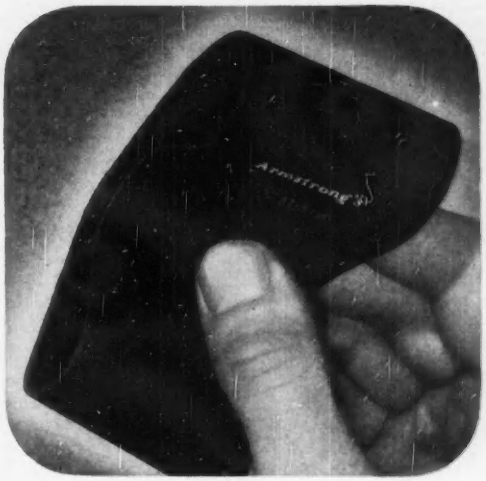
3. SATIN FINISH. Accotex Aprons are ground to the exact thickness you specify and finished to satin smoothness by a special process, developed and patented by Armstrong. Their uniformly smooth surface will never groove or become rough.



6. CLEAN RUNNING. Because Accotex Aprons retain their satin smooth finish and do not absorb oil, they don't tend to pick up lint and loose fibers. Thus, they are clean running at all times despite years of continuous service.



3. UNAFFECTED BY OIL, TEMPERATURE, OR HUMIDITY. Oils, dyes, and solvents normally used in the textile industry have no effect on Armstrong's Aprons. They won't sweat. And they operate efficiently at any mill temperature.



4. SUPERIOR FLEX LIFE. Made of a non-oxidizing synthetic, Accotex Aprons keep their rubbery resilience throughout their long life. They don't dry out and become brittle with age but run smoothly over the nose bar year after year.

spin six years...and longer

Long life of Armstrong's Accotex Aprons due to special cord and synthetic rubber construction

Current reports from mills in all parts of the country indicate that Armstrong's Accotex® Aprons average better than 6 years of service—and still spin quality yarn.

This performance record is due to the special Accotex construction. Rubber wearing surfaces on both the inside and outside of the apron are seamless, so they can't crack or break open prematurely. Sandwiched between the rubber layers is a sturdy cord interliner that reinforces the rubber and absolutely prevents stretching and curled edges. Man-made Accotex rubber and cord, eliminate the structural defects that normally cause unexpected apron failures.

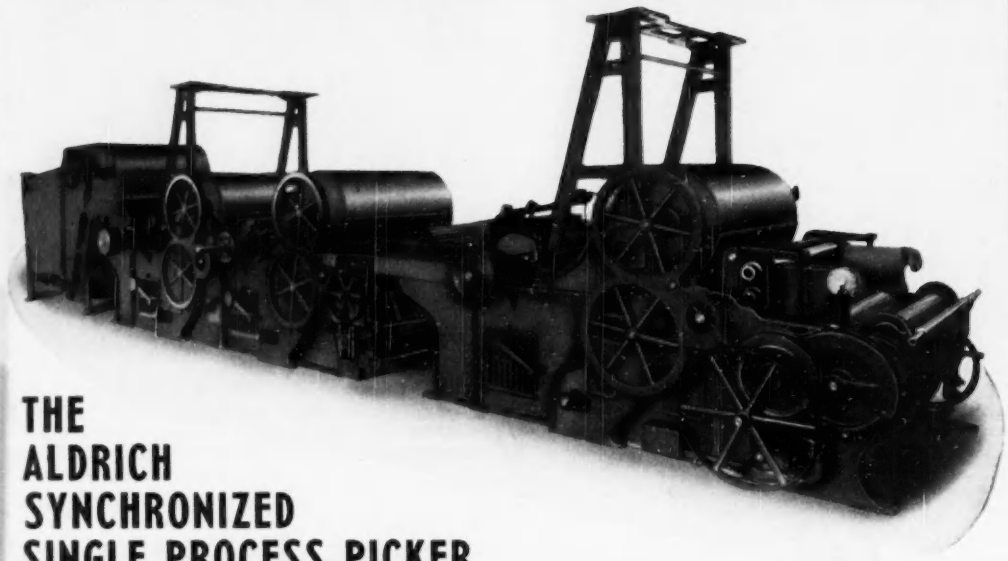
Besides long life, Armstrong's Accotex Aprons provide superior flex life, satin smoothness, and the other desirable apron qualities illustrated above and at the left.

Armstrong's Accotex Aprons are available in a wide range of sizes to fit all single and double apron spinning and roving frames.

Your Armstrong representative will gladly arrange for a test installation. Call him today or write Armstrong Cork Company, Textile Products Dept., 3603 Arch St., Lancaster, Penna. Available for export.

ARMSTRONG'S ACCOTEX APRONS

FOR MAKING EVENER CARD SLIVER



THE ALDRICH SYNCHRONIZED SINGLE PROCESS PICKER

A true single-process picker, in which the finisher section is fed with a smooth, well-formed lap from the breaker section, instead of with loose cotton from a gauge box or hopper feeder. The Aldrich Synchronizer controls the feed from the breaker section to deliver the lap exactly as required by the finisher.

This makes a lap which is not only quite even yard by yard, but unusually even in every direction throughout the lap. Such a lap will make a very even card sliver.

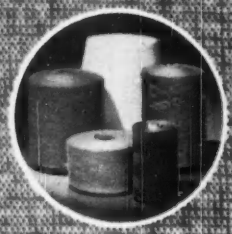
The feeder on the Aldrich picker is equipped throughout with permanently lubricated ball bearings, which never require attention.

The Aldrich picker has all possible parts in the evener mounted on ball bearings for extreme sensitivity.

The Aldrich picker is equipped with a new and improved, completely silent, sideshaft drive to the evener.

AldricH MachinE

Greenwood WorkS South Carolina



COLOR SELLS TEXTILES

Quality KEEPS Them Sold

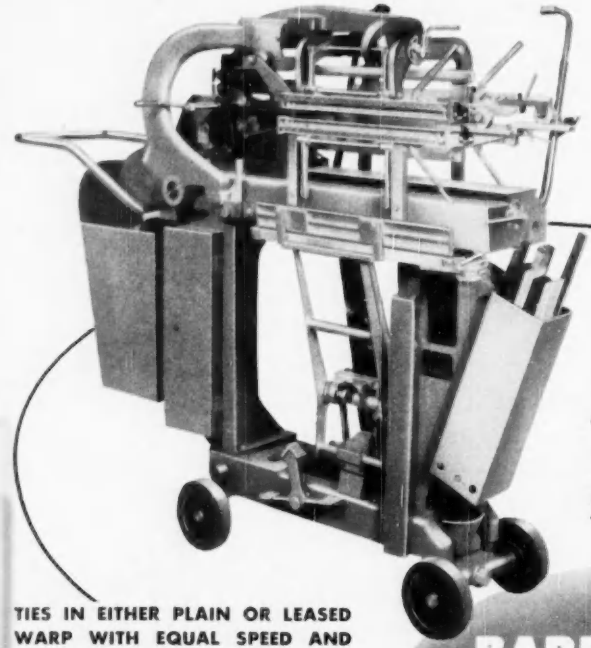
Franklin Process Colors are an important part of the QUALITY story behind the current popularity of cotton knitted fancies. To *insure* the future of this business many manufacturers are using vat and naphthol colors.

Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

PROVIDENCE PHILADELPHIA GREENVILLE CHATTANOOGA

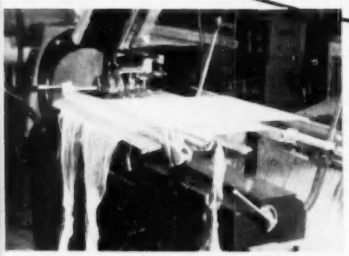
New York Representative — 40 Worth St.



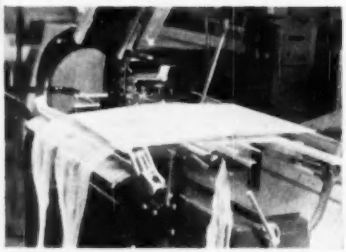
BARBER COLMAN

Reduce Costs!
Increase Production!
Improve Products!

TIES IN EITHER PLAIN OR LEASED WARP WITH EQUAL SPEED AND EFFICIENCY



Model "LL" machine set up for tying in a plain cotton warp.



The same machine as above, now set up for a leased cotton warp.

BARBER-COLMAN *Portable* WARP TYING MACHINE

A Barber-Colman PORTABLE Warp Tying Machine can be a *very profitable* investment for you. This machine offers a fast and accurate means for tying-in new warp *at the loom.* It can be handled in confined and hard-to-reach places and in loom alleys as narrow as 12". Overall production capacity averages 3500 to 4500 ends per hour, higher on high sley warps. Models are available to handle cotton, wool, worsted, silk, or synthetics (including monofilaments) and plain warps or leased warps or both. Tying is accurate and uniform and so much more efficient than common hand methods that the machine will pay for itself quickly in cost savings *even when not in constant use.*

SEE THIS MACHINE AT THE Atlantic City EXHIBITION May 8-12

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

Years of smooth-running production ahead

for these new **drawing frames**

with the help of

Gulf Lubrication

The kind of lubrication these new drawing frames get down through the years will play an important part in determining the quality of the sliver they produce, how long they retain their efficiency, and how much they cost to operate.

To insure proper lubrication, the progressive management of this mill adopted the quality lubricants and application schedule recommended by a Gulf Lubrication Engineer. As a result, every bearing and gear gets better protection against wear and loss of accuracy. And that means higher quality yarn in the long run, plus lower maintenance costs.

Scores of the country's leading mills rely on Gulf Lubrication, report that it helps them keep their machines and equipment in better condition and helps them reduce costs. They know from experience that Gulf lubricants are high quality, uniform products—that each one does its job well. They have found the wide experience and broad practical knowledge of Gulf Lubrication Engineers invaluable—a source of real down-to-earth solutions for their maintenance and lubrication problems.

This kind of lubrication service has real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today and ask a Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

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Sales Offices - Warehouses

Located in principal cities and towns throughout Gulf's marketing territory

GULF INDUSTRIAL LUBRICATION

OUR BUSINESS IS IMPROVING YOUR BUSINESS

How a hosiery mill's York Air Conditioning central station system paid for itself in only five years

THE management of a large textile mill decided after a thorough check that York Central Station Air Conditioning was the best bet for economy of initial cost, operation and maintenance, as well as promising tops in efficiency.

After five full years of operation, here's the story:

The York Central Station Air Conditioning System has completely paid for itself! Rejects and seconds have been decreased by 35 per cent! Production, during hot, humid summer months, has been boosted by 22 per cent! Personnel records prove less absenteeism! And machine records prove the need for far fewer machine adjustments—and the full utilization of all machines, for peak production at all times!

Maybe you don't need a complete York Central Station Air Conditioning System, but the chances are you do need humidity and temperature control to some degree to help boost production, maintain or improve product quality, and increase employee efficiency.

And that's where York comes into your picture too. Regardless of size or type of your mill, there's a complete range of York equipment to profitably solve your air conditioning and refrigeration problems. And there's a York Representative ready to talk textile applications with you. You'll find his specialized knowledge, and his accumulated technical data exceptionally helpful. Phone your nearest York Representative today for detailed facts and figures. No obligation, of course. York Corporation, York, Pennsylvania.

York
refrigeration
air conditioning

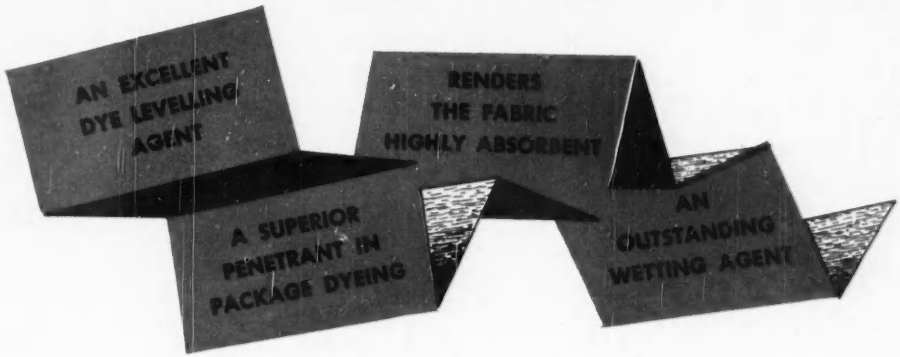
PIONEERS IN INVENTION AND DEVELOPMENT SINCE 1874

Refrigeration and Air Conditioning

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

DUOFOL

POWERFUL SURFACE TENSION DEPRESSANT


AN EXCELLENT DYE LEVELLING AGENT
RENDERS THE FABRIC HIGHLY ABSORBENT
A SUPERIOR PENETRANT IN PACKAGE DYEING
AN OUTSTANDING WETTING AGENT

Hartex DUOFOL, a sulfated condensation product, is a clear amber oil possessing superior wetting, rewetting, and softening properties. It is clearly miscible with water in all proportions and retains its high surface activity in the presence of hard water, salt, alkali, or weak acids.

DUOFOL was developed for instantaneous wetting in baths at all temperatures up to the boil.

It is recommended for dyeing operations in general and specifically for vat and package dyeing to give greater uniformity of shade.

When a solution of DUOFOL is dried into a fabric, it renders the fabric highly absorbent (rewetting property). In addition, DUOFOL acts as a softening agent making its use doubly advisable in sanforizing operations.

Quantities as low as 4 oz. per 100 gallons have proved satisfactory for most applications.

Hartex Products

Rayon Oils & Sizes	Conditioning Agents	Cationic Softeners
Nylon Oils & Sizes	Scrooping Agents	Cotton Warp Dressings
Kier Bleaching Oils	Splashproof Compounds	Wetting-Out Agents
Finishing Oils	Delustrants	Weighting Agents
Synthetic Detergents	Leveling Agents	Mercerizing Penetrants

HART PRODUCTS

based on research

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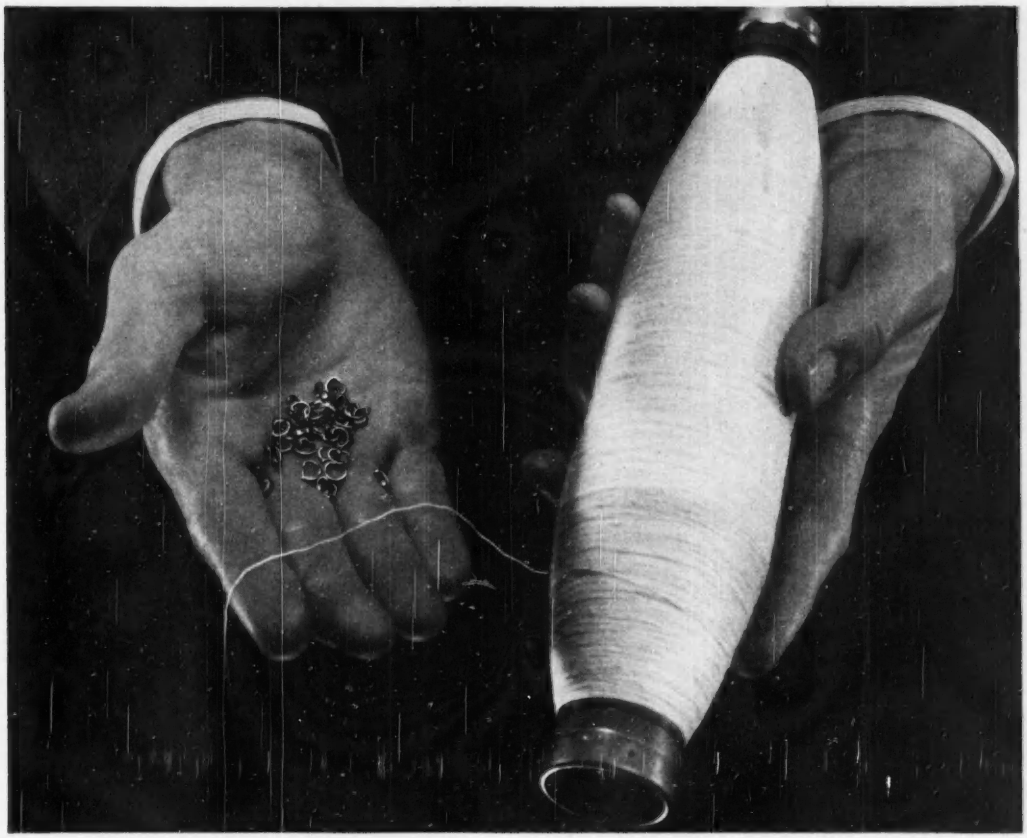
Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK



How Much Per Traveler-Pound?

The true test of a traveler is the number of pounds of top quality yarn which can be spun or twisted with it before it wears out. The more yarn produced, the lower your cost per traveler-pound.

Millmen who keep a sharp eye on production costs always judge travelers on this traveler-pound rating. And that's why so many choose Victor Travelers for spinning or twisting.

Victors consistently cost less per traveler-pound for two reasons. First, because there are no better travelers made, by any test of quality and uniformity. Second, because Victor Service Engineers, all mill-trained men, can quickly grasp your special problems, and come up with the right answer.

They can not only recommend the *right* traveler, but can often make other suggestions for improving your quality and production, —whether you are running conventional fibers, synthetics, or blends.

Plan now to talk to a Victor man about your costs per traveler-pound. Write, wire, or phone the nearest Victor office . . . for prompt service.

•

VISIT THE VICTOR BOOTHS 254-255 AT THE AMERICAN TEXTILE MACHINERY EXHIBITION, ATLANTIC CITY, MAY 8-12

Keep a Step ahead with

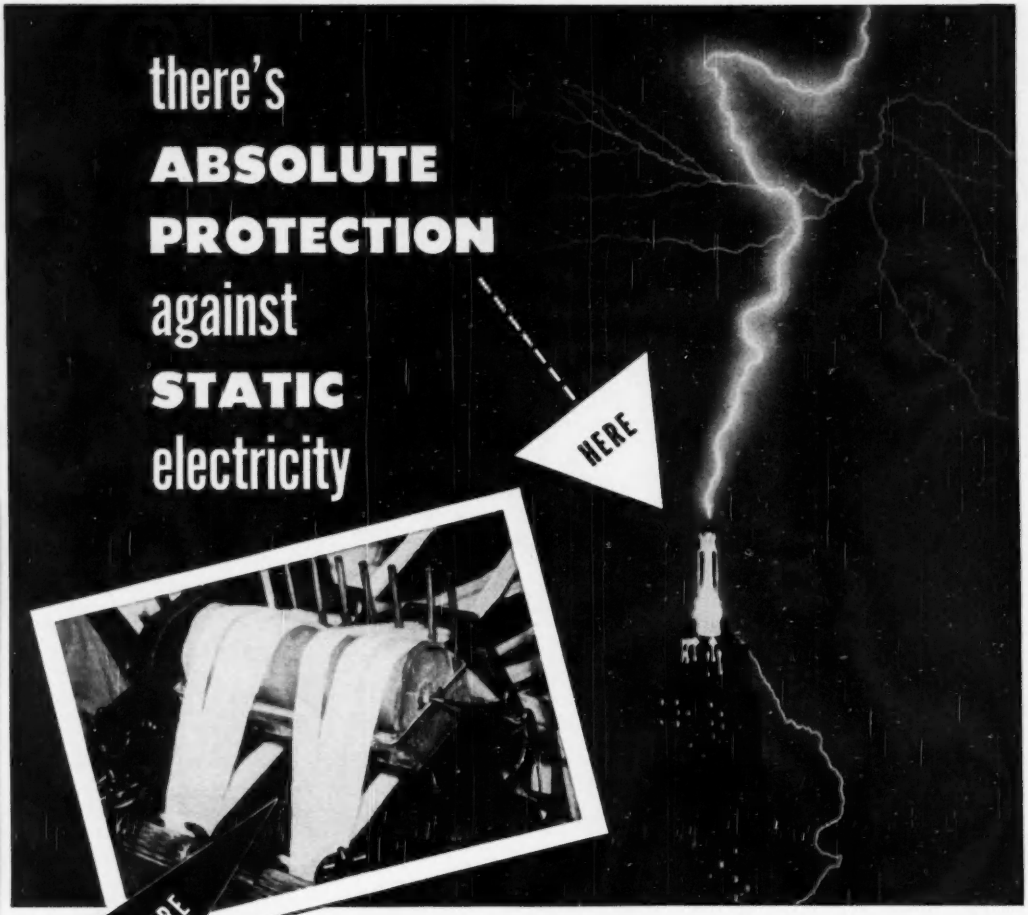
VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 5-0891

there's **ABSOLUTE PROTECTION** against **STATIC** electricity



Today's architects and builders have the means to protect their creations from electricity on the rampage . . .

. . . and today's WORSTED manufacturers have the means to protect the quality of their products from mischievous electricity—STATIC that plays havoc with desirable yarn production. For Nopco's new, specifically developed lubricant —NOPCO* 1656-R—provides an anti-static oil that assures better WORSTED production.

Fibres treated with Nopco 1656-R remain static free throughout carding, gilling, combing and drawing—in spite of today's speeded up processes. Result: "Wild" and broken ends are avoided, and even-running yarn is assured.

Nopco 1656-R successfully replaces any conventional lubricant you are now using. It is applied in the same manner . . . no changes in equipment or methods are needed. Whatever your production system—American, Bradford or French—this remarkable new oil can be used with great advantage to produce HIGH QUALITY WORSTED YARNS economically.

Ask your Nopco representative for full information about 1656-R — or write to us directly.

NOPCO — EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

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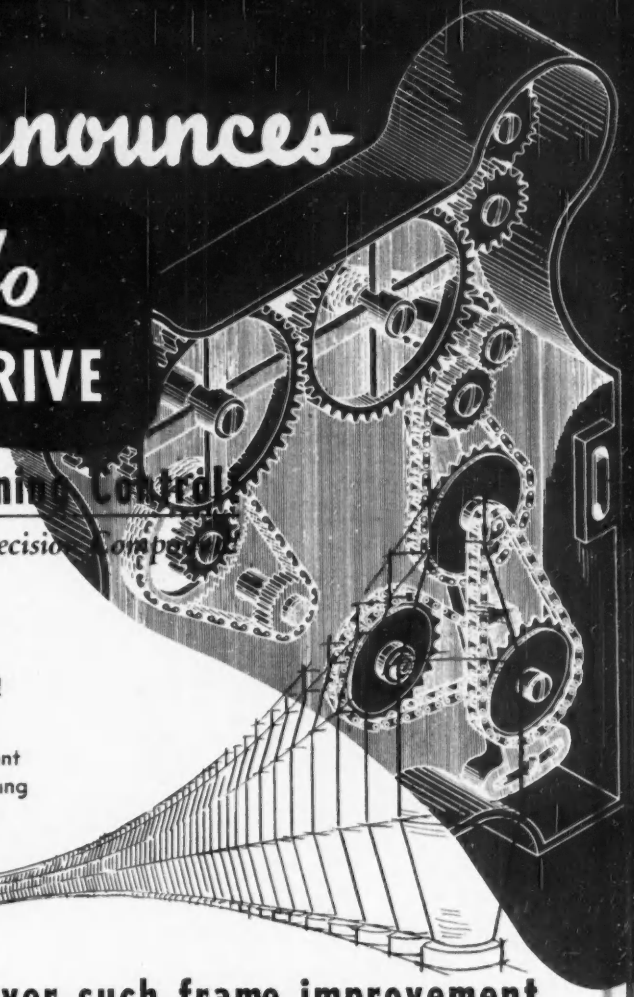
Branches: Boston • Chicago • Cedartown, Ga. • Richmond, Calif.

*Reg. U. S. Pat. Off.

PRECISION Announces

★ The *Even-flo* TRAVERSE *Chain* DRIVE

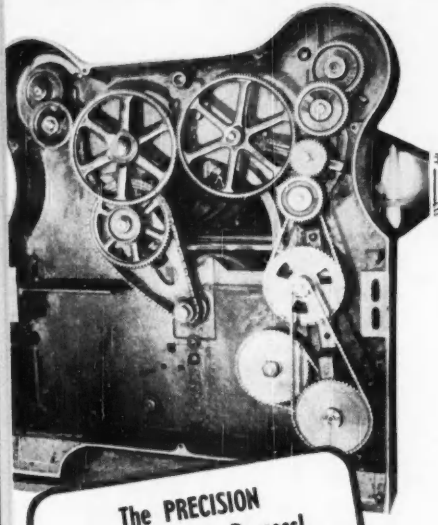


★ A New High in Yarn Spinning Control

The greatest advance since the Precision Compound

- New smoothness of power flow!
- New economy of operation!
- New accuracy in bobbin building!
- New savings in bobbin performance!

Patent pending



The PRECISION Pattern-Master Process!

For maximum spinning and twisting frame performance, Precision has engineered these improvements over standard equipment:

- Ball bearing cylinders
- Ball bearing Cam Bearings
- Ball bearing Pitman Rolls
- Exclusive slough-guard cams
- EVEN-FLO Traverse Chain Drives

All have been tested and installed in many leading mills. Inquire about PRECISION Pattern-Master modernizing — in whole or in part.

Never such frame improvement for such small change-over cost!

- Quick, precise speed ratio changes!
- Maximum slack elimination!
- Maximum backlash reduction!
- Smooth-flow ring rail reversal!

New efficiency for these frames!

The EVEN-FLO Drive provides immediate improvement in these spinning and twisting frames: • Whitin "Model A" • Saco-Lowell • Whitin (all models) • Mason • Fales and Jenks (Star or Skeleton Head) • H & B (in modified form), For a new high in accurate yarn laying, write or call for full facts.

THE SOUTH'S LARGEST MAKERS OF GEARS AND CHAIN DRIVES

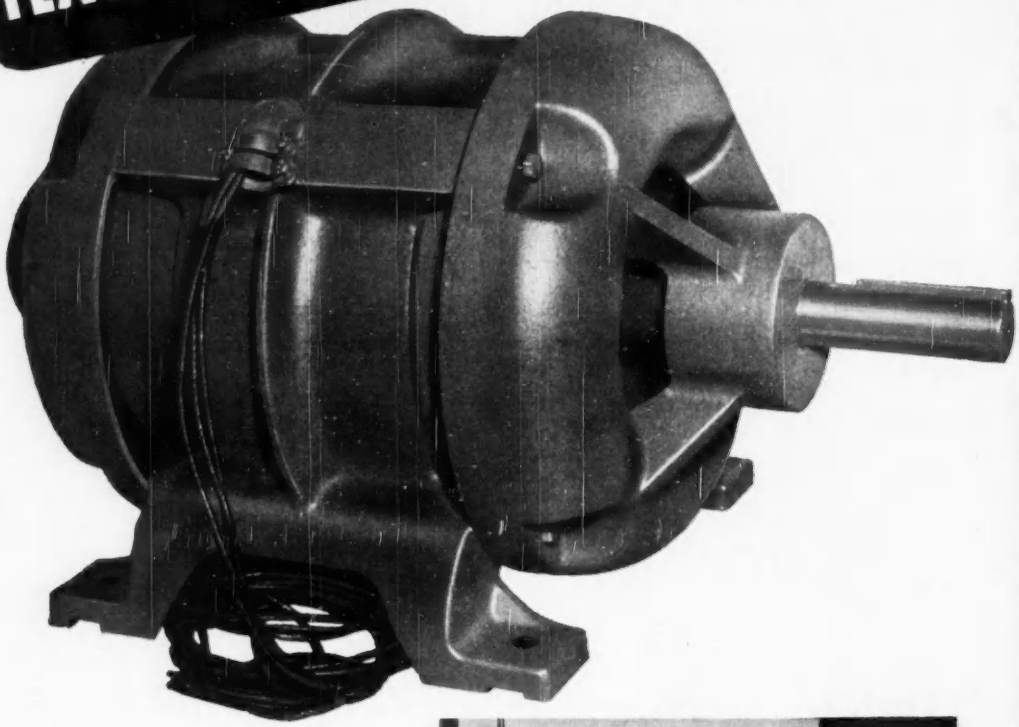
PRECISION

GEAR AND MACHINE COMPANY

DIVISION OF TURNER MANUFACTURING CO.

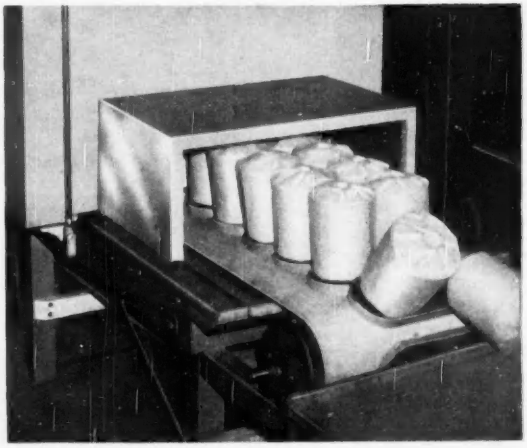
2001 North Tryon Street, CHARLOTTE, NORTH CAROLINA, U.S.A.

Quick-Clean TEXTILE MOTOR Sweeps



Faster Cake Drying and Twist Setting

Cutting cake drying and twist setting time in rayon mills is only one of the many advantages of Allis-Chalmers Dielectric Heaters. Because each strand is heated from the inside, heating and drying are uniform throughout the package. Quality is greatly improved. Large ovens and drying rooms are eliminated. You can increase capacity in the same floor space. Stock in process is reduced. Engineering and cost studies made without obligation. Ask your nearest Allis-Chalmers Sales Office or write the factory.



Texrope, Vari-Pitch and *Quick-Clean* are Allis-Chalmers trademarks.

Itself Clean!

Wide open with smooth interior surfaces to prevent accumulation of lint and dirt. New Sealed bearings need no attention for years, cannot throw oil or grease.

HERE IS THE IDEAL MOTOR for spinning frames, twisters and other textile applications. Big air passages in the end bells and wide clearance between end bells and frame allow powerful fans to sweep cooling air into the motor and right out again, carrying all lint and dirt with it. Coil ends are capped with plastic and surfaces are smooth and hard so foreign matter cannot settle.

Quick-Clean motors now also feature a sealed ball bearing. This new type bearing eliminates lubricant and lubrication costs for years. It cannot throw grease to catch lint and dirt or soil materials. It is safe from underlubrication and overlubrication. Ask your nearest Allis-Chalmers Sales Office about the new Quick-Clean Textile Motor today. Or write for the bulletin listed below. ALLIS-CHALMERS, 1054A SO. 70 ST. MILWAUKEE, WIS.

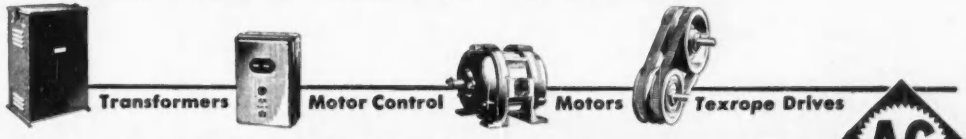
MATCH QUICK-CLEAN MOTORS WITH A-C STARTERS

This control was developed especially for dependable, safe starting of Quick-Clean motors. Other Allis-Chalmers control will give you dependable operation of all electrical equipment in your plant. Competent application engineers are always available at your nearby Allis-Chalmers Sales Office.

Send for Free Engineering Literature

Quick-Clean Motors, 51B6055
Allis-Chalmers Loom Motors, 51B7111
Texrope Drives, 20B6051
Vari-Pitch Automatic Sheave, 20P40
Dielectric Heater, 15B6431
Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment, 25B6150

COMPLETE SERVICE — from power line to machine



ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

A-2969

"Joe's O.K., He's one of us..!"

What does he mean—"One of us"?

You know what he means. Joe spells his name right. His religion is right. His folks come from the right part of the world.

Yes, maybe Joe is O. K.

But the fellow who says "He's one of us"—that fellow isn't O. K. He's intolerant. Blind, unreasoning prejudice makes him think he's better than somebody else.

In your employ there may be some prejudiced folks like this. They may work for you . . . but they don't work *together with others* for you. Not very well they don't. And you ought to do something to show them how wrong they are. You ought to do it for America's sake . . . for your own sake.

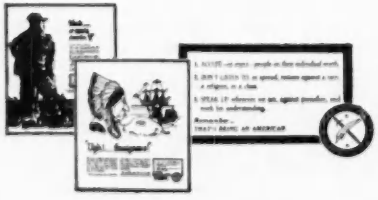
The Advertising Council is asking you to join hands with it in promoting *fair play* to all regardless of race, religion or national origin.

Display one of these posters in your office or your factory. Let men and women of good will know that there are other men and women of good will who believe as they do.

Help make yours a more friendly community in which more personal and direct methods may flourish and take root.

It will serve you while it serves America.

Post these messages in a public place! Copies are **FREE!** ▶



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Accept or reject people on their individual worth.

Vaportight CONDULETS*

for electrical installations that are exposed to weather, moisture, steam or non-combustible dusts

JUNCTION CONDULETS - SWITCHES - RECEPTACLES - LIGHTING FIXTURES - CIRCUIT BREAKERS - PANELBOARDS

The illustrations show a representative selection from the hundreds of CONDULETS that are vaportight or when furnished with covers and gaskets become vaportight.

*CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.

Type X Obround Condulet with Blank Cover and Gasket
Type FSC Condulet with Blank Cover and Gasket
Type GSC Condulet with Blank Cover and Gasket
Type CRT Vaportight Condulet
Type C Obround Vaportight Switch Condulet
Type TS Vaportight Toggle Switch Condulet
Type TSC Vaportight Push Button Station Condulet
Type FSC Vaportight Plug Receptacle Condulet
Type XPH Vaportight Indirect Lighting Condulet 150 – 200 Watt
Type AHC Vaportight Flexible Fixture Hanger
Type FS Vaportight Switch Condulet
Type FD Vaportight Switch Condulet
Type FBC Vaportight Switch Condulet
Type FS Two-Gang Vaportight Switch Condulet
Type FS Vaportight Lighting Fixture
Type FSC Two-Gang Tandem Condulet with Vaportight Switch and Plug Receptacle
Type VDB Vaportight Lighting Condulet 300 – 500 Watt
Type FCP Three-Gang Vaportight Panel Mounting Condulet with Pilot Lights and Switch
Type VGB Vaportight Lighting Fixture for GBI Series Conduits
Type GS Vaportight Lighting Fixture for GS Series Conduits
Type VG Vaportight Lighting Condulet
Type GS Vaportight Lighting Fixture for GS Series Conduits
Type VDA Vaportight Lighting Condulet with Dome Reflector 150 – 200 Watt
Type FSC Two-Gang Vaportight Combination Push Button Station and Pilot Light Condulet
Type V Vaportight Lighting Condulet for Mounting on Machines
Type V Vaportight Heavy Duty Lighting Condulet with Shatterproof Glass
Type VDG Vaportight Tank or Vat Light Condulet
Type ABC Vaportight Lighting Fixture for Obround Conduits.
Type VC Vaportight Lighting Condulet
Type V Vaportight Lighting Condulet with Dome Reflector 150 – 200 Watt
Type VDB Vaportight Lighting Condulet
Type VHA Vaportight Lighting Condulet with Flush Hubs
Type VR Vaportight Lighting Condulet for Mounting on a Hand Rail
Type VRJ Vaportight Lighting Condulet for Extensions from Concealed Conduit
Type VS Vaportight Hand Lamp with Rubber Handle
Type VDA Vaportight Lighting Condulet with Angle Reflector 150 – 200 Watt
Type FCD-E Vaportight Lighting Fixture for Wall Mounting
Type VFC Vaportight Gauge Lighting Condulet
Type VV Vaportight Lighting Condulet with Fresnel Lens
Type VJ Vaportight Lighting Condulet
Type VLG Vaportight Gauge Lighting Condulet Fluorescent
Type 1SW Vaportight Circuit Breaker Condulet
Type DVSP Dust-Tight and Vaportight Panelboard
Type DVSP Dust-Tight and Vaportight Panelboard
Type DLP Dust-Tight and Vaportight Panelboard

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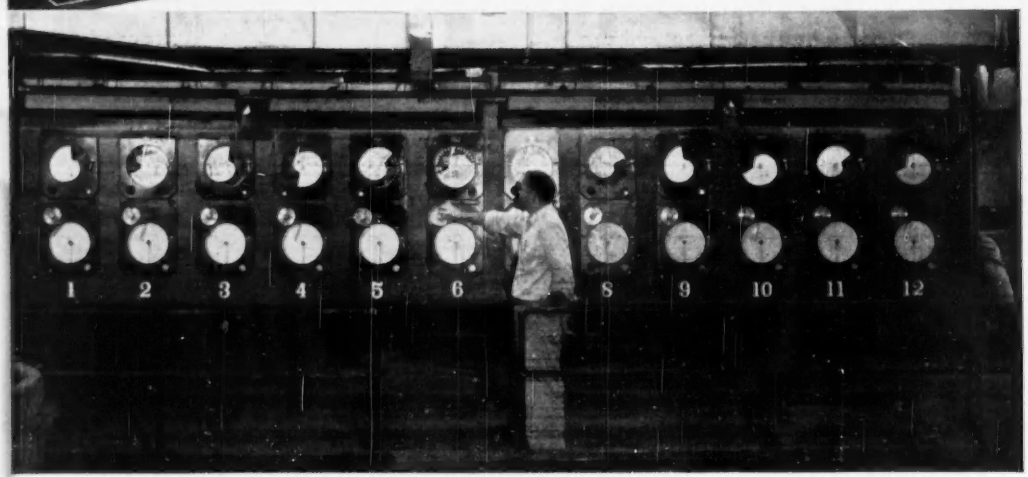
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS • TRAFFIC SIGNALS • AIRPORT LIGHTING • FLOODLIGHTS

Gets better dyeing at lower cost . . .



with Taylor Control of Piece and Raw Stock Dyeing!

THE label above is the hallmark of the Worumbo Manufacturing Co. of Lisbon Falls, Maine, a leading weaver of fine topcoat and suit fabrics. They depend on 21 Taylor Fulscope* Time-Schedule Temperature Controllers with Process Timers (12 shown above) for consistently uniform piece and raw stock dyeing. All controllers are mounted on a central control panel for the operators' convenience. Four ways Taylor Automatic Control cuts costs for Worumbo are:

1. Assures more uniform dyeing, better matching of shades.

2. Saves steam by accurately maintaining set point temperature.

3. Eliminates costly rejects that might otherwise be caused by human error in maintaining time and temperature schedules.

4. Reduces supervision. Because optimum processing conditions are maintained *automatically*, supervisory personnel have more time for other duties.

Here's how this Taylor Automatic Control System works: Rate of rise to final temperature and length of time at that temperature are fully adjustable. Number and length of add periods are automatically timed by the Process Timer (knob in upper left corner of lower case). Once the proper cycle is set up, time and temperature is under fully automatic control, with no further settings by the operator.

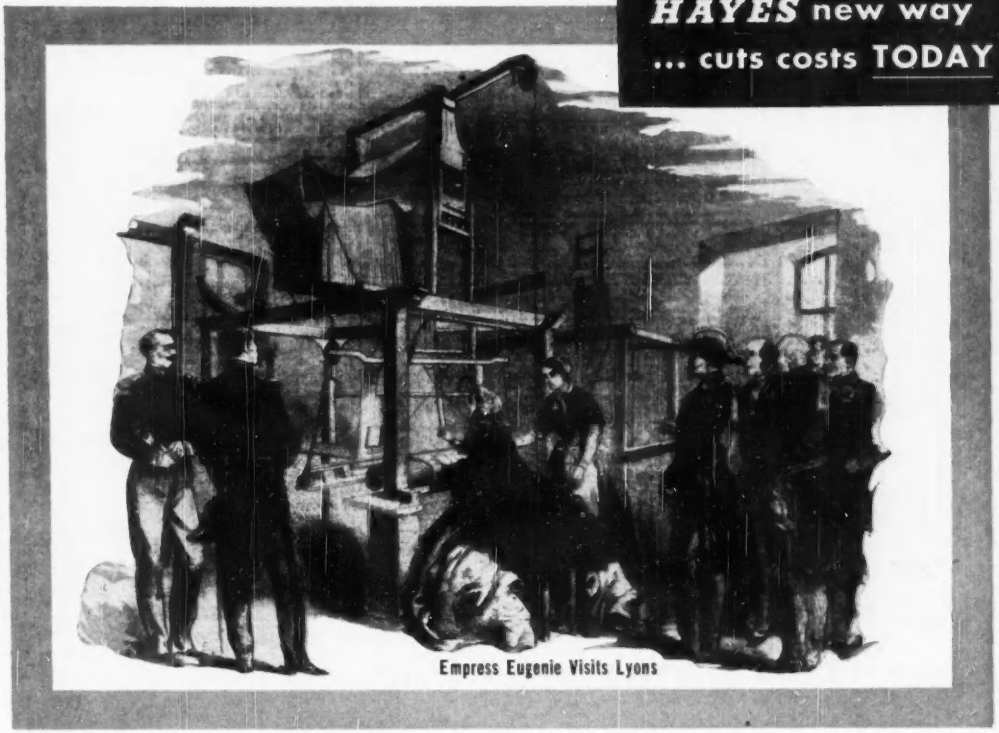
This is another example of Taylor Controls helping a textile manufacturer cut costs and keep quality up. We've been growing up with the industry for 30 years *and can save you money on practically any application in your plant from the first processing phase to the last.* Ask your Taylor Field Engineer! Taylor Instrument Companies, Rochester, New York, and Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

* Registered Trade Mark

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

HAYES new way
... cuts costs TODAY

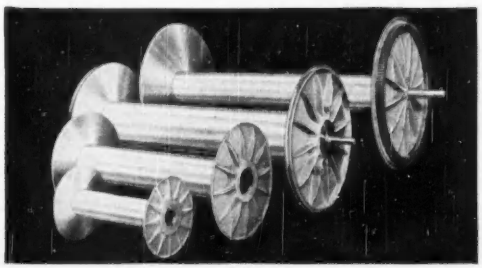


Empress Eugenie Visits Lyons

Modern Mills Reduce Costs with Light Metal Beams

Imagine! Empress Eugenie worked the loom herself . . . and all Lyons was thrilled as the royal lady viewed their progressive textile center. And why not? For here, not many years before, Jacquard had invented his notable pattern-weaving loom, a major development.

A modern development . . . one that appreciably reduces the costs of production . . . is Aluminum and Magnesium beams. Beams made of these light metals, by Hayes Industries, weigh less than half as much as conventional types. Every time a beam, loaded or empty, is shipped or handled, there is a saving. With modern volume production this saving adds up to a respectable percent of profit.



Besides shipping costs, there are numerous other advantages. Because they do not splinter, snag or rust, like wood beams and cast iron, there are fewer rejects and seconds using light metal beams. Selvage edges are perfect, due to low head deflection. Fine balance permits top machine speeds . . . maximum production.

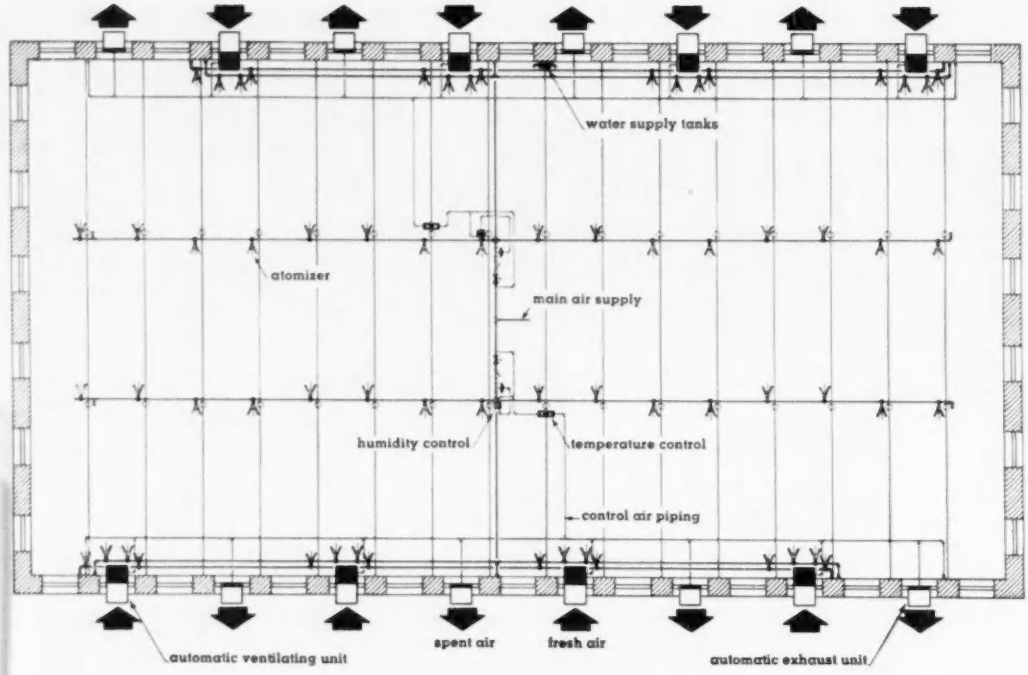
Perhaps your profit is less because costs are high. Investigate Hayes light metal beams . . . and learn their profit-building potential.

Ask for New Hayes Catalog 100.

HAYES

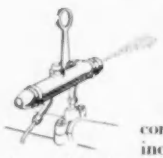
INDUSTRIES, INC.

HOME OFFICE: Jackson, Michigan



Ductless humidification and cooling

..how it works, what it does

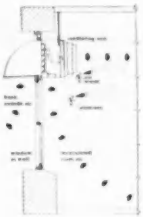


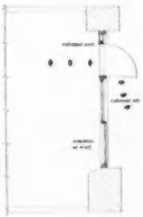
You know the advantages of AMCO humidification . . . correct regain, even yarn counts, increased output, improved quality, reduced waste and fire hazard. Atomizers are self-cleaning. Controls are extremely responsive. **But do you know how easily you can add COOLING to humidification, with a ductless system?** You discard nothing and make only a modest addition to your present humidification system. Add evaporative cooling room by room as you need it. Modify it any time you want.

The cooling effect of evaporating twelve pounds of water equals one ton of refrigeration. That's the measured result of evaporative cooling in one hour in a given area. For example, in cotton weaving at 80% relative humidity an Amco *ductless* evaporative cooling system can economically produce an indoor temperature approximately 7 degrees above the outside wet bulb temperature.

Simple, sensitive, flexible. An Amco *ductless* evaporative cooling system consists of ventilating units in windows or walls to draw in a controlled amount of fresh air, additional atomizers to provide extra evaporation for absorbing excess heat; controlled vents for exhausting spent air and heat; automatic temperature controls with sufficient range to cover winter and summer conditions.

Write today for catalog or ask to have an Amco engineer show you how easily evaporative cooling can be added to your present humidification system.





AMCO

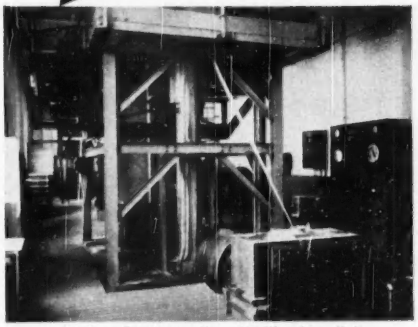
HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

White and dyed cotton-linen combinations bleached by Startex

Startex Mills plant at Startex, S. C.

200 yds. per minute



Du Pont Continuous Peroxide Bleaching Unit in operation at Startex Mills.

bleached with their

DU PONT CONTINUOUS PEROXIDE SYSTEM

Since its installation in 1947, this Du Pont Unit has been in continuous operation at Startex Mills . . . producing at 200 yards per minute on 4.00-yd.-per-lb. goods! Startex reports an outstanding degree of uniformity in its bleached results while processing towels and wide tablecloth fabrics manufactured from all-cotton and cotton-linen mixtures. And these goods include those containing both naphthol- and vat-dyed yarns. What's more, Startex states it is getting brighter colors in fabrics containing colored yarns as a result of less color loss during processing.

Similar reports continue to come in from mills all over the country. They tell of performance records broken again and again by Du Pont Peroxide Systems. Why not investigate the outstanding possibilities of Continuous Bleaching for your mill? Clip the coupon below and mail it today for a free booklet illustrating various installations.

TO BLEACH MORE GOODS QUICKLY AND ECONOMICALLY

There's a Du Pont system to meet your specific requirements. Du Pont technical service men will help you select equipment and start up your process. Just write E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

SEND FOR FREE BOOK

DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT

BETTER THINGS FOR BETTER LIVING ...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.) TI-3
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

Name_____ Title_____

Firm_____

Street & No._____

City_____ State_____

Smoother OPERATION!

Ball Bearing Off End Stand

Ball Bearing Comb Box

Here's the companion piece to Southern States' Ball Bearing Comb Box . . . the Ball Bearing Off-End Stand! This new Stand is designed to provide smoother and completely leak-proof operation of your Comb Stocks. It is available for all current makes of cotton cards.

A completely sealed bearing unit, this new stand—when used in combination with the Southern States Ball Bearing Comb Box—eliminates the possibility of oil damage at the front of the card. While adjustments can be made at the Comb Box, the new Ball Bearing Stand will correct **minor** misalignment of the Comb Stock.

Southern States makes available to you **now** either separate unit or combination replacements of your old, worn-out comb boxes, comb stocks, and off-end stands. Purchase them individually or take advantage of complete replacement by ordering the three units at one time. Specify make of cotton card when ordering.

Replace old sleeve-type bearings with the new Southern States Ball Bearing Off-End Stand. Adaptable to **any current make of cotton card,** this efficient unit is completely **sealed,** requiring a minimum of attention. Simply and quickly installed, it is available for either right—or left—hand mounting and can be reversed **right in your cardroom!** You can insure more accurate comb setting—retain this accuracy for the life of the bearing.

Southern States Equipment Corp.

HAMPTON GEORGIA

Representatives - Mechanical Division

William A. Knapp Atlanta, Ga.	John C. Walters Hampton, Ga.	C. H. Kennington Charlotte, N. C.	Roy Schrimshire Columbus, Ga.	Textile Parts & Mach. Co. Gastonia, N. C.	F. C. Todd, Inc. Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

SANDOZ PRESENTS *The color achievement of the month*

Double Take ...BY MILLIKEN

A second look is what this stunning Milliken worsted deserves . . . and will get throughout its lifetime.

For Milliken has combined a rich fabric with vibrant bright-on-dark tones and by means of superior dyeing has insured a color life as long as its wear life.

To dye such fabrics, Sandoz (who counts Milliken among its customers) recommends its Metomega line of chrome colors, and to produce such a shade as that illustrated its METOMEGA CHROME BROWN RLL (Pat.).

Metomega colors are fast to weather, perspiration, dry cleaning and pressing. And they are profitable to handle in the finishing stage. No bleeding into light colors during fulling, no change of shade during carbonizing, and no ill effects from decatizing.

Select Sandoz METOMEGA Colors for top customer satisfaction and mill production economy.

And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

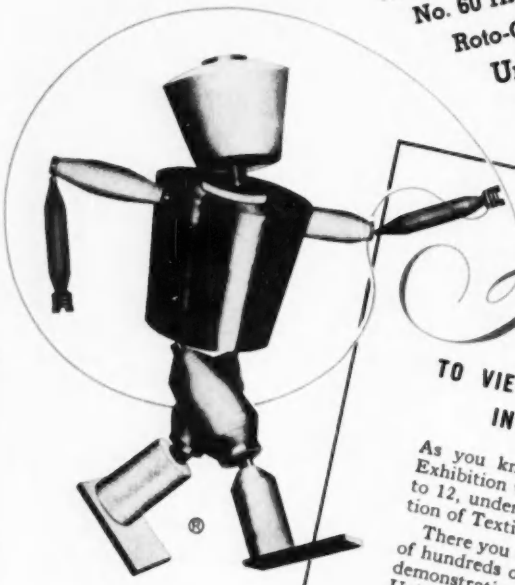
SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13 N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

Through the years . . .

Atwood Skein Winding
Atwood Up-Twisting
Universal Self-Supporting Package Winder
No. 50 Precision Winder
No. 90 Filling Bobbin Winder
Atwood Doubling-Twisting with Automatic Stop Motion
No. 60 High Speed Doubling
Roto-Coner* Rotary Traverse Winding
Universal Pineapple Coning
Universal Bobbin Spool Attachment
No. 250B Nylon Sizing



and now . . . an

Invitation

TO VIEW THE NEWEST ACHIEVEMENTS IN WINDING AND TWISTING

As you know, the American Textile Machinery Exhibition will take place in Atlantic City, May 8 to 12, under the auspices of the National Association of Textile Machinery Manufacturers.

There you will see, among the important exhibits of hundreds of textile machinery manufacturers, a demonstration of the most recent developments of Universal Winding Company.

Generations of mill men have seen great developments in winding and twisting machinery come from the drawing-boards of Universal and Atwood engineers. None, we believe, could have been of more interest than those which we intend to reveal at the coming Exhibition.

Our booth numbers are 165 to 179, inclusive, and (across the corridor) 276 and 288. We hope you'll visit us there. Look for the revolving "Universal Man."

AUSPICES OF AMERICAN TEXTILE MACHINERY EXHIBITION ATLANTIC CITY MAY 8-12, 1950

More than any other, perhaps, the textile industry is in a constant state of evolution. Never before at one time, however, has news of such great importance been revealed by the various machinery manufacturers.

We urge you to attend . . . invite you to visit our exhibits . . . and caution you to make your reservations *now*.

*Reg. U. S. Pat. Off.

LEESONA®

ATWOOD®

UNIVERSAL WINDING COMPANY

P. O. Box 1605 • Providence 1, R. I.

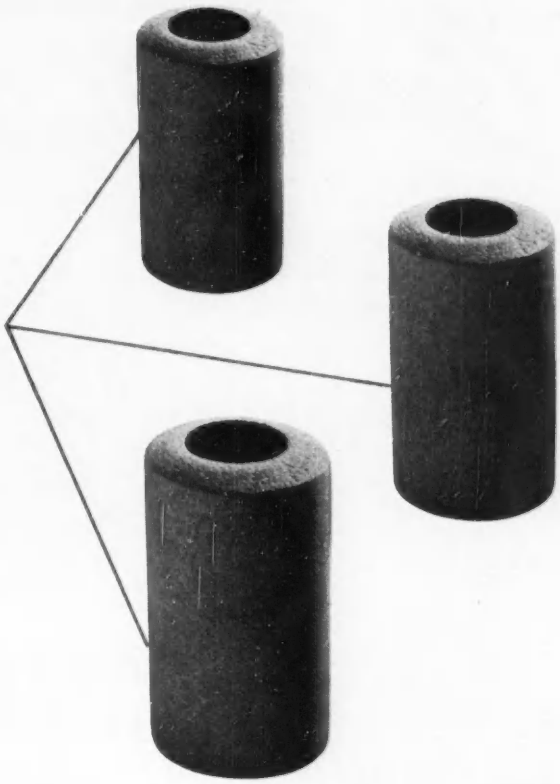
Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

NO EYEBROWS

with Armstrong's high friction Cork Cots



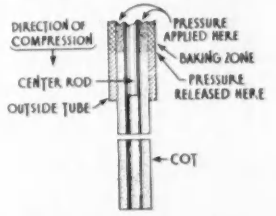
Eyebrows don't have a chance to form when you run on Armstrong's Cork Cots. The extra friction of these cots picks up loose fibers and packs them well back on the clearers where they belong.

This high friction also gives you uniform drafting. Armstrong's Cork Cots grip the fibers with a firm, even pressure that spins quality yarn.

Moreover, these cots are economical to use. Their first cost is low. They save assembly time because they are seamless and pre-glued. And their front line service life of two to three years cuts the over-all cost of roll covering material and labor.

See for yourself what Armstrong's Cork Cots can do. Your Armstrong representative will gladly arrange for a test installation. Call him today or write Armstrong Cork Company, Textile Products Department, 3603 Arch Street, Lancaster, Penna. Available for export.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger, more uniform yarn.

ACCOTEX IS A REGISTERED TRADE-MARK.

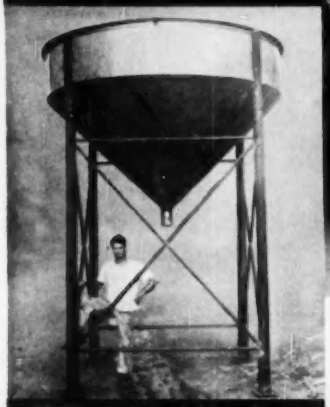
Better running work . . . more poundage

ARMSTRONG'S CORK COTS

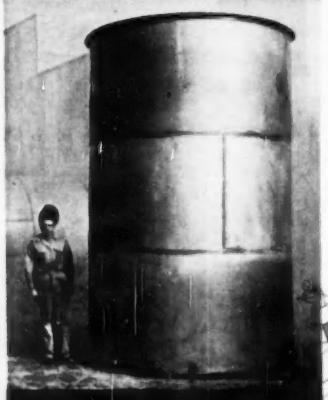
ACCOTEX COTS • ACCOTEX APRONS

Custom Tailors . . .

RIGHT. Utilizing the original frame, Sims completely rebuilt the wooden body of this piece dyeing machine from stainless steel.



ABOVE. Stainless Steel Dye Storage Tank, highly polished inner surface, 1500 gallon capacity, milled steel supports. A Sims tailored job!



ABOVE. 12 foot Monel metal tank, 8 feet in diameter, ready for shipment.

# of STAINLESS STEEL!

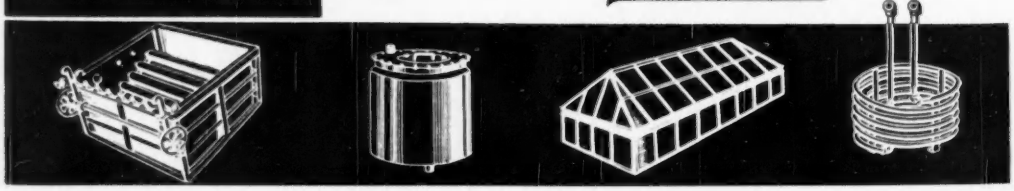
No idle boast is the statement that Sims craftsmen are not simply fabricators, but Custom Tailors of stainless steel. Called in by a bleachery and dye plant, whose own engineers—because of space limitations—had decided the job was difficult, Sims engineers designed and built a stainless steel dye storage tank with a 45° drainage slope, with a 1500 gallon capacity, which fit a limited overall height and yet allowed sufficient space under the tank for necessary machinery, and, finally, which adhered to a fixed diameter. Pictured at left, above, is the result—a typical Sims Custom Tailored job! For stainless and alloy fabrication to meet your most exacting requirements, call in a Sims engineer FIRST.

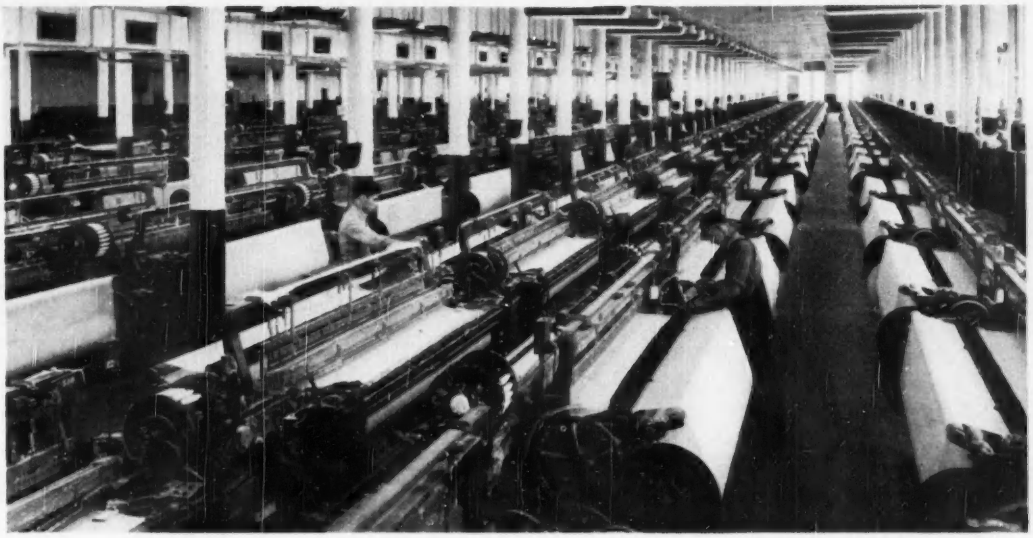
Write for "Stainless Steel Fabrication"—the complete story of Custom Tailoring by SIMS.

FABRICATORS SINCE 1928

Sims METAL WORKS

WEST POINT GEORGIA





They don't want us to use their name but...

They were among the first cotton mill groups to recognize the value of Carrier air conditioning.

Their first air conditioning installations were made about 1924 in two plants. Both plants were conditioned by Carrier Central Station Systems.

They increased machinery loads in 1942 and 1945 — required additional air conditioning to offset increased heat loads. They added Carrier Central Station Systems. The original systems were still operating and in excellent condition.

Again in 1945 they cooled by Carrier Central Station Systems still another mill which had previously been operating on atomizers. Existing atomizers were used in weave room combination systems for high humidities.

They use 18 Carrier Central Station Systems in these three mills. Six have been in use for over 25 years. We think that is a pretty good indication of their belief that when it comes to air conditioning your best investment is Carrier. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

. . . and that Fabric is woven on the World's Most Modern Loom...

C&K's S-6

Here is the modern loom for modern mills ... already proven in more than 100 weaverooms, on some of the world's most beautiful fabrics of nylon, rayon, acetate, combinations, and pure silks used in dresses, blouses, linings and underwear.

This newest advance in weaving is a 2 x 1 box automatic bobbin-changing dobby loom with vacuum filling control, for weaving fabrics of whatever width desired, calling for a maximum of 2 shuttles. 11 exclusive structural features give the S-6 new standards of performance and durability.

It operates at higher speeds . . . reduces direct labor . . . eliminates drawn-in ends at time of transfer . . . and gives many other advantages. Get the whole story in terms of your own fabrics. Write C&K today.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

AMERICAN TEXTILE MACHINERY EXHIBITION ATLANTIC CITY MAY 8-12, 1950

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

BOOTHS 323-338

FOR DE-SIZING

RAPIDASE®

Heat-stabilized amylolytic enzyme preparation, liquid. Solubilizes starch sizing in cotton, rayons and mixed goods . . . at extremely high temperatures. *De-size faster at lower cost with Rapidase.*

RAPIDASE-M Intermediate strength—with all the characteristics, quality and value of Rapidase. For those who prefer a de-sizing agent of higher concentration.

RAPIDASE-CONCENTRATED For those whose needs demand a de-sizing preparation of highest unit strength. Because of its high concentration, greater economy is obtained in freight handling and storage expense.

ZYMEX®

A powdered amylolytic enzyme preparation in high concentration. For those who prefer the convenience of a powdered enzyme . . . with all the advantages and economy of Rapidase.

SERIZYME®

Proteolytic type liquid de-sizing agent. For de-sizing fabrics containing gelatin, casein, soya and other protein and albuminous sizes. Produces a finer, softer hand, more uniform quality, clearer cross dyes.

In conjunction with any enzyme preparation . . . SACON . . . a non-ionic wetting agent and detergent. It is compatible with enzymes and is applicable in neutral, acid or alcoholic solutions.

Our technicians are available to visit your plant on request . . . Write for booklet.

WALLERSTEIN COMPANY, INC. 180 MADISON AVENUE, NEW YORK 16, N. Y.

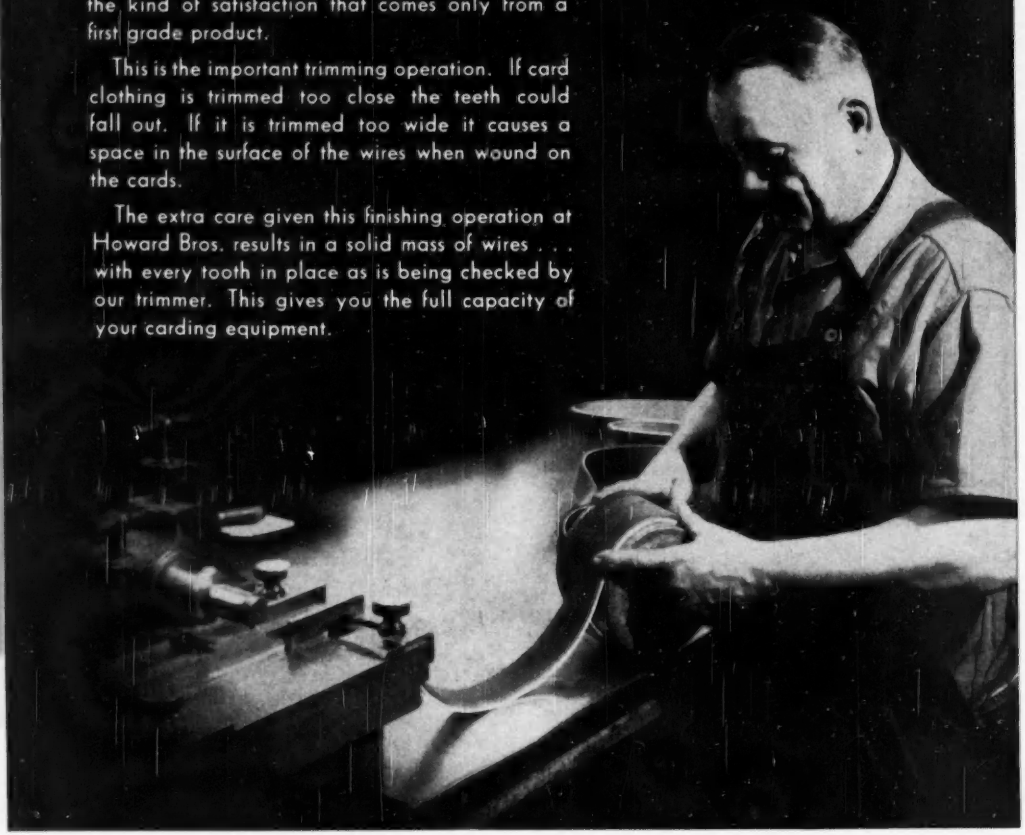
TRIM COSTS

with expertly trimmed TUFFER Card Clothing

Here you see one of the reasons why Tuffer Card Clothing goes on your cards so smoothly . . . gives the kind of satisfaction that comes only from a first grade product.

This is the important trimming operation. If card clothing is trimmed too close the teeth could fall out. If it is trimmed too wide it causes a space in the surface of the wires when wound on the cards.

The extra care given this finishing operation at Howard Bros. results in a solid mass of wires . . . with every tooth in place as is being checked by our trimmer. This gives you the full capacity of your carding equipment.



HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

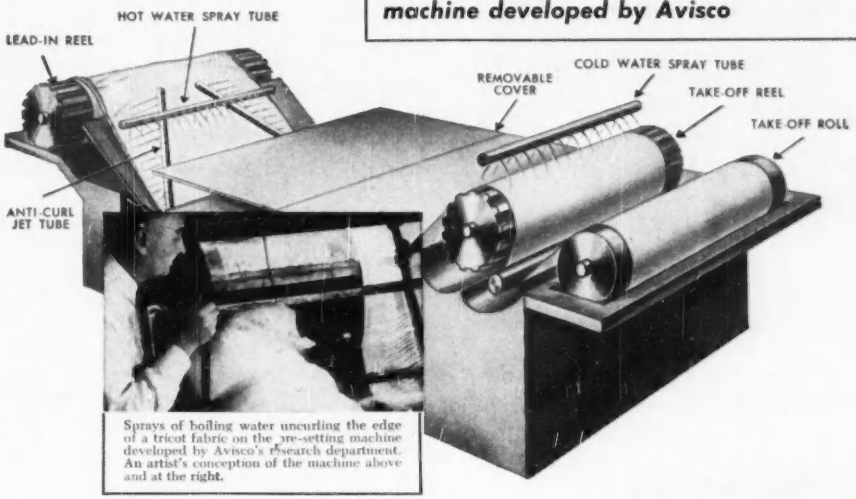
Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-3

TUFFER CARD CLOTHING ***IMPROVES PRODUCTION ALL ALONG THE LINE***

Tricot pre-setting machine proving successful with variety of fibers

Holly-Knit Inc. reports excellent results with machine developed by Avisco



Sprays of boiling water uncurling the edge of a tricot fabric on the pre-setting machine developed by Avisco's research department. An artist's conception of the machine above and at the right.

The tricot pre-setting machine announced by American Viscose last spring is now being successfully used to process all current types of tricot fabrics it is reported. One machine, built and operated by Holly-Knit Inc., Mt. Holly, N. C., has proven to give superior results not only with acetate but also with stabilized stitch acetate, nylon and blends of nylon with acetate, viscose and cuprammonium. The operation has been so successful that at times, the machine is running on a 24-hour a day schedule.

Holly-Knit has found that one of the major advantages of the process is the extremely favorable cost of operation. It not only keeps the fabric flat until the setting process is complete, but the fabric can be dyed in the flat without tacking and subsequent un-tacking. Thus the goods are pre-set in the greige and not after scouring. "Crow's feet" and crease marks are eliminated and the goods come out of the dryer with a straight course line. It is also felt that the Avisco pre-setting machine is much more versatile than conventional types. Due to its favorable cost it is entirely feasible to use it in conjunction with dry-heat setting in plants doing a variety of work.

Finishing plants interested in using this new process may obtain complete information from American Viscose Corporation.

Full information about the Avisco tricot pre-setting machine will be available to the trade at the Knitting and Allied Crafts Exposition, April 24-28, 71st Regiment Armory, New York City. The booth numbers are 54 and 55. In addition, those interested are always welcome to visit the Textile Research Department at Marcus Hook, Pa., where license agreements are available on request and for demonstrations and answers to their questions.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

The new LOCKE design is available in bushing alone or combination shield and bushing—for either warp or filling bobbins.

10 REASONS WHY
THE LOCKE BUSHING
ENDS TROUBLE • PREVENTS WASTE • SAVES TIME

1. **Will not freeze on the spindle.**
2. **Provides better traction.**
3. **No forcing to loosen bobbin . . . prevents package distortion.**
4. **No tight grasping . . . prevents soiling of outer yarn layers.**
5. **Minimizes chance of bending spindle blades.**
6. **In starting, yarn follows groove from spindle to bobbin . . . fewer broken ends.**
7. **Increases doffing speed . . . helps operator boost output.**
8. **Assures easier and truer seating of bobbin.**
9. **Reduces development of loosened bushings . . . saves repairs.**
10. **Longer bobbin life . . . less frequent replacement . . . lower bobbin costs.**

LEADS AGAIN . . . with the

NEW LOCKE Bushing*

A much-needed improvement in bobbins that eases common spinning "headaches"

Bobbins that freeze on the spindle—that require excess twisting and pulling to release—are a familiar "headache" in spinning. Forcing leads to many troubles. Doffing is slowed up and production suffers. Packages are soiled and distorted, often slough off in later operations. Bushings are loosened and spindle blades bent.

With the new LOCKE Bushing for both warp and filling bobbins, U S offers a simple but effective remedy for freezing and its attendant troubles. Corrugations permit an intermittent contact around the spindle, unlike the continuous contact of the conventional bushing. The bobbin releases immediately with a normal lift, yet traction is even better than with old type bushings.

Check the many advantages of the new LOCKE bushing listed here. Then ask your U S representative for a demonstration. You'll agree that this major improvement will give a gratifying boost to spinning efficiency. U S Bobbin & Shuttle Co., Lawrence, Mass.

**Patent Pending*

U S BOBBIN & SHUTTLE CO.

LAWRENCE • MASSACHUSETTS

PROVIDENCE, R. I. • **PHILADELPHIA, PA.** • **JOHNSON CITY, TENN.** **GREENVILLE, S. C.** • **CHARLOTTE, N. C.** * * ***Representatives:*** **CHICAGO:** Albert R. Breen, 80 E. Jackson Blvd. • **CANADA:** W. J. Westaway, Montreal, Que., Hamilton, Ont. • **ALABAMA:** Young & Van Supply Co., Birmingham

SEE U S PRODUCTS DEMONSTRATED AT THE TEXTILE MACHINERY EXHIBITION

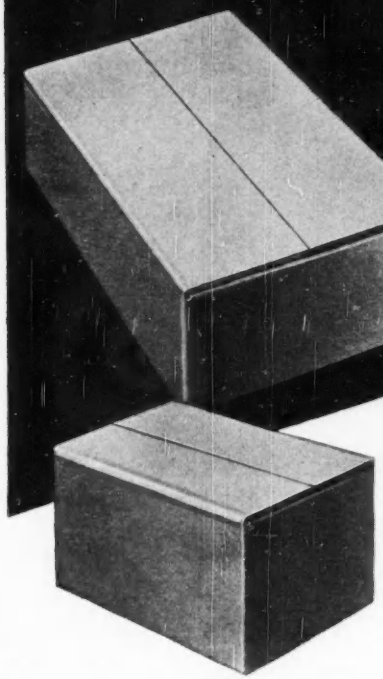
Stop in at the U S Bobbin & Shuttle Co. Booth at the Textile Show, May 8-12, at Atlantic City. U S Representatives will show you how new developments in U S products contribute to lower processing costs and improved quality.

Customer Goodwill

IS MONEY IN THE BANK

Save it BY PROTECTING YOUR PRODUCT FROM DAMAGE IN TRANSIT WITH

Gaylord Boxes



DAMAGED merchandise and its accompanying irritations often result in loss of customer goodwill. You owe it to yourself to take every precaution against this loss. You can do so by permitting Gaylord's Engineering and Research Department to analyze your present container —if it's right, they'll tell you; if it isn't, recommendations will be made. No obligation, of course—just call the Gaylord office nearest you.

GAYLORD CONTAINER CORPORATION General Offices: **ST. LOUIS**

- CORRUGATED AND SOLID FIBRE BOXES
- FOLDING CARTONS
- KRAFT GROCERY BAGS AND SACKS
- KRAFT PAPER AND SPECIALTIES

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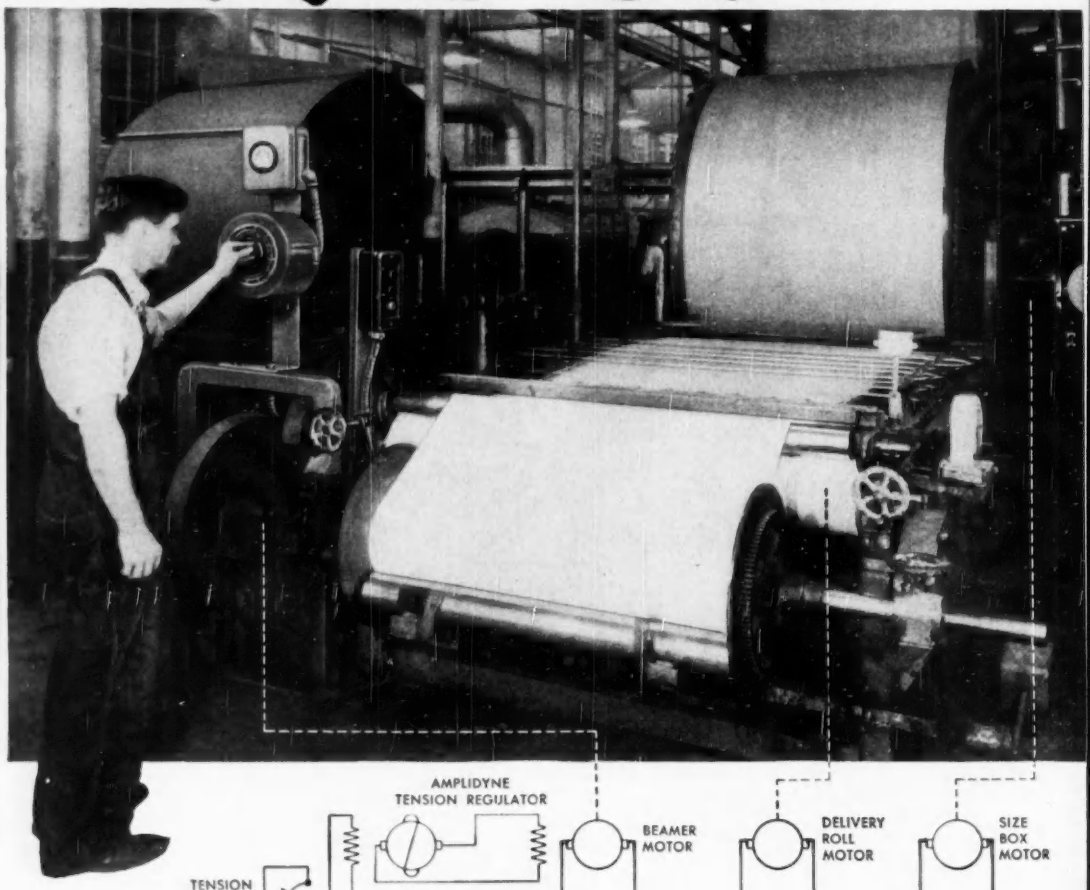
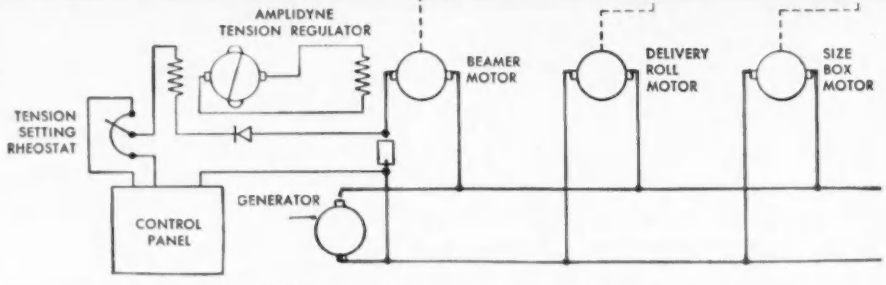
The PAY OFF is

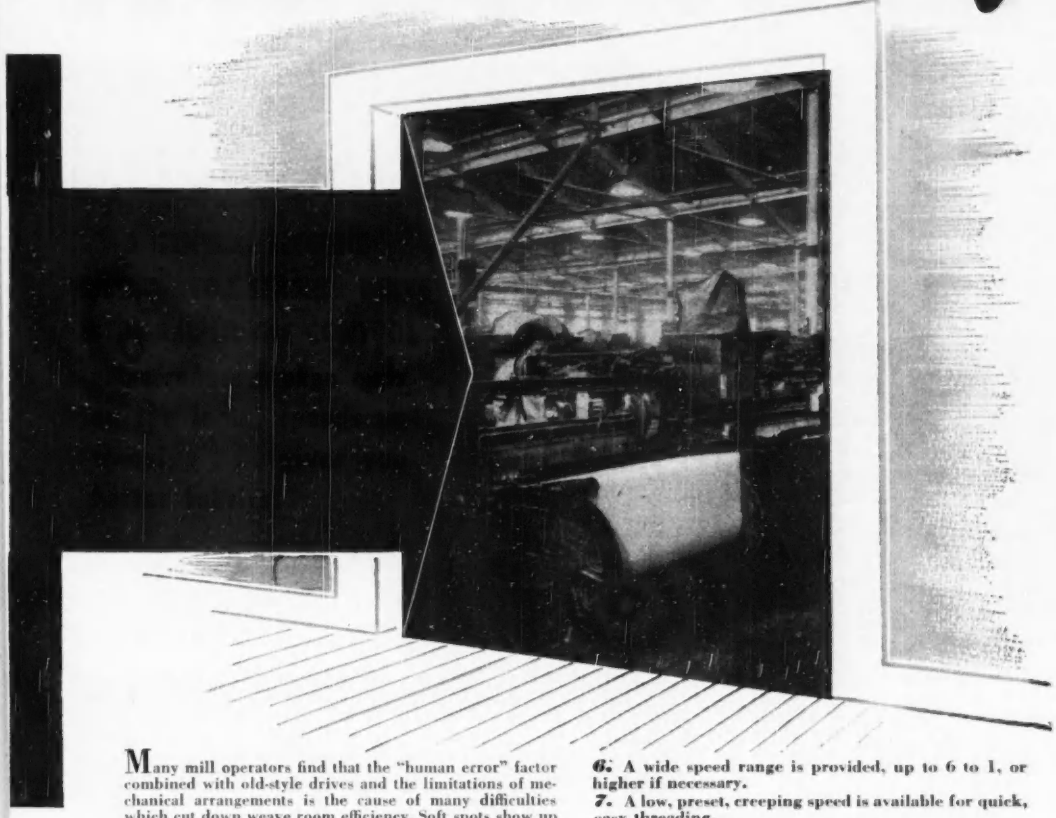




COMPONENTS OF A TYPICAL G-E SLASHER DRIVE

This simplified schematic shows the basic components of a typical G-E slasher drive with special emphasis on the beam motor and its control. As beam diameter builds up, the drive motor slows down automatically in order to keep yarn speed and yarn tension constant. This is accomplished by holding motor armature current constant during beam build up. Specific details on how this is done are contained in Bulletin GEA-5259. Write for your copy today!

in the weave room!



Many mill operators find that the "human error" factor combined with old-style drives and the limitations of mechanical arrangements is the cause of many difficulties which cut down weave room efficiency. Soft spots show up in the beam, ends break frequently, and yarn tension is irregular.

A General Electric slasher drive reduces these imperfections. Specifically, it gives you these important operating advantages:

1. **Tension is automatically regulated over the entire beam diameter build-up.**

2. **Any one of a wide range of preset tension values between the size box and delivery roll may be easily selected.**

3. **More yards per beam are made possible by uniform tension control.**

4. **Running speeds may be easily preset by adjusting a single rheostat.**

5. **Acceleration and deceleration is smooth and even to prevent tension variations or yarn damage.**

6. **A wide speed range is provided, up to 6 to 1, or higher if necessary.**

7. **A low, preset, creeping speed is available for quick, easy threading.**

8. **The G-E slasher drive may be easily tied in with automatic moisture control.**

9. **Maintenance of slip clutches, line shafts, and mechanical speed changers is eliminated.**

If you are considering a new slasher installation, it will pay you to discuss a G-E drive with your machinery manufacturer. Or, if you're modernizing, get in touch with your local G-E textile mill specialist. For more details, write for Bulletin GEA-5259, *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

GE DRIVE SYSTEMS FOR TEXTILE MILLS

You can put your confidence in—

GENERAL ELECTRIC

654-5

KERANOL NK

gives **COTTONS AND RAYONS**

a very **DESIRABLE, SOFT, FULL HAND**

durable to **WASHING AND DRY-CLEANING**

Unaffected by pH variations in the finishing bath—compatible with Resins—very resistant to yellowing, even at excessively high temperatures. Write for our technical service bulletin #208-110.1

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CO., INC.

NEWARK, NEW JERSEY

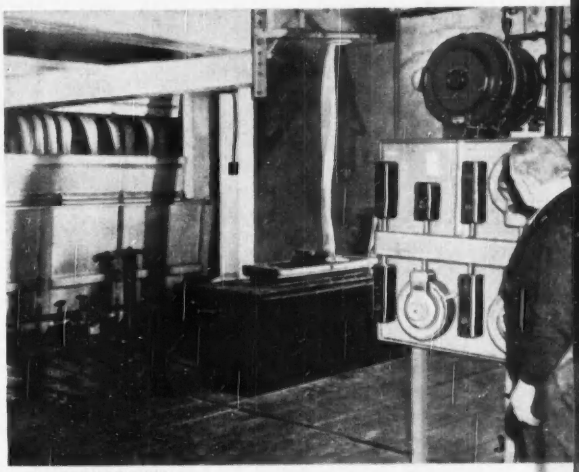
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY

Key to good management in the Textile Industry

It is true the successful textile man must be a good buyer and a good seller. But the fact still remains, the only place where he can exert full control of his operations, and the one possible source of consistently satisfactory profits, lies in the production end of his business. But since success here hinges on wise purchase and wise operation of equipment, he is going to pay more than ordinary attention to the motor control he buys or the motor control he permits his employees to buy. For motor control . . . *good* motor control . . . is the key to all he hopes to gain with his machines. And *good* motor control is more than what you see in the box. It is brains, intelligence, experience, integrity all wrapped up together for the dependable operation textile mills must have.

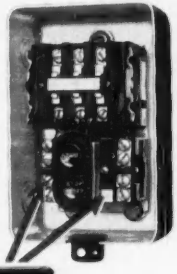
One sure way to get *good* motor control is to consider the 58 years Cutler-Hammer has built motor control; what the "know-how" thus gained means to the control Cutler-Hammer builds for the textile industry. Consider the world-famous dependability of this control. Then try some for yourself. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.



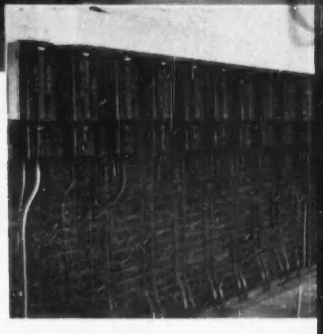
for PEPPERELL at Lewiston, Maine, where Cutler-Hammer Control is used at all steps of the continuous peroxide bleaching process.

CUTLER-HAMMER EUTECTIC ELEMENT OVERLOAD PROTECTION

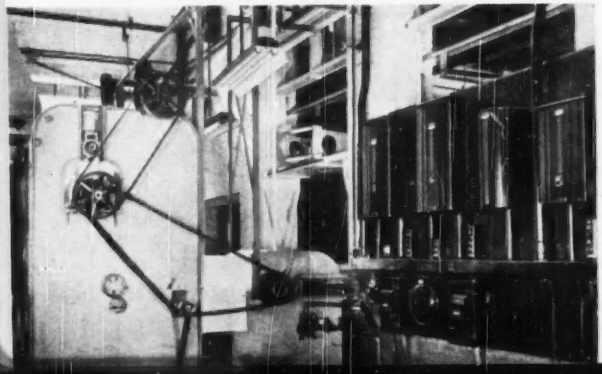
One of the most ingenious and useful inventions of all time, Cutler-Hammer Eutectic Element Overload Protection accurately duplicates, measures and responds to heating effect produced within the motor. The world's most widely used and the world's most dependable motor overload protection, not only permits the motor to work *closer* to capacity in all cases but to do so in perfect safety. A standard feature of Cutler-Hammer Control.



CUTLER-HAMMER
MOTOR CONTROL
C-H



for EXPOSITION at Atlanta. Cutler-Hammer Safety Switches and Automatic Starters shown at the right serve the pickers shown above. Cutler-Hammer Control is also used in opening, cleaning, on drawing machines, roving frames . . . on through to the looms in this great mill.

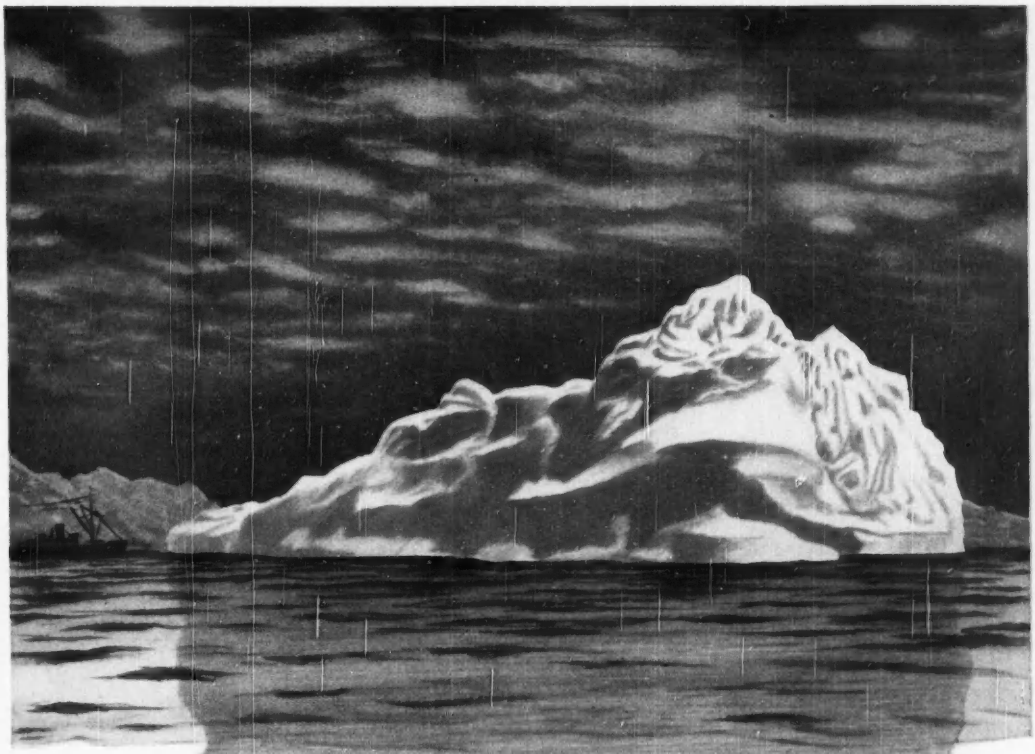


for CRANSTON at Webster, Mass. You will find Cutler-Hammer Control on the continuous peroxide bleaching range . . . in fact on all finishing ranges in this plant.

taken for granted

Perhaps the highest compliment that could be paid to Standard Oil Lubricants is the fact that their dependability and uniformity is taken for granted by the textile industry of the South. ... Management men concerned with production *know*, from years of first-hand experience, that Standard Oil Lubricants can be depended upon to reduce power losses, hold down maintenance and lubrication costs, and lengthen machinery life. ... From more than sixty years of service to the industry, Standard Oil has acquired an experienced understanding of specialized textile lubrication needs. This desirable know-how is available to you through your Standard Oil representative.

STANDARD OIL COMPANY (KENTUCKY)



TROUBLE IS GENERALLY HIDDEN

That mass of ice above the water doesn't tell the whole story.

By far the greater portion of the iceberg lies below the surface—*hidden*, as trouble usually is.

You've probably found out that trouble in finishing operations is frequently hidden, too. Your problems differ with almost every lot coming to the mill. You may have variables in water or in sizing formulas to deal with. The all-purpose de-sizing agent—Diastafor brand, Type L—has been especially developed to help you meet these problems as they arise.

Many men in charge of finishing and dyeing operations say that Diastafor—Type L—is practically fool-proof in operation. They know that no finish is better than its bottom. They value Diastafor—Type L—because it gives a good "hand" and a fine finish under widely varying conditions.

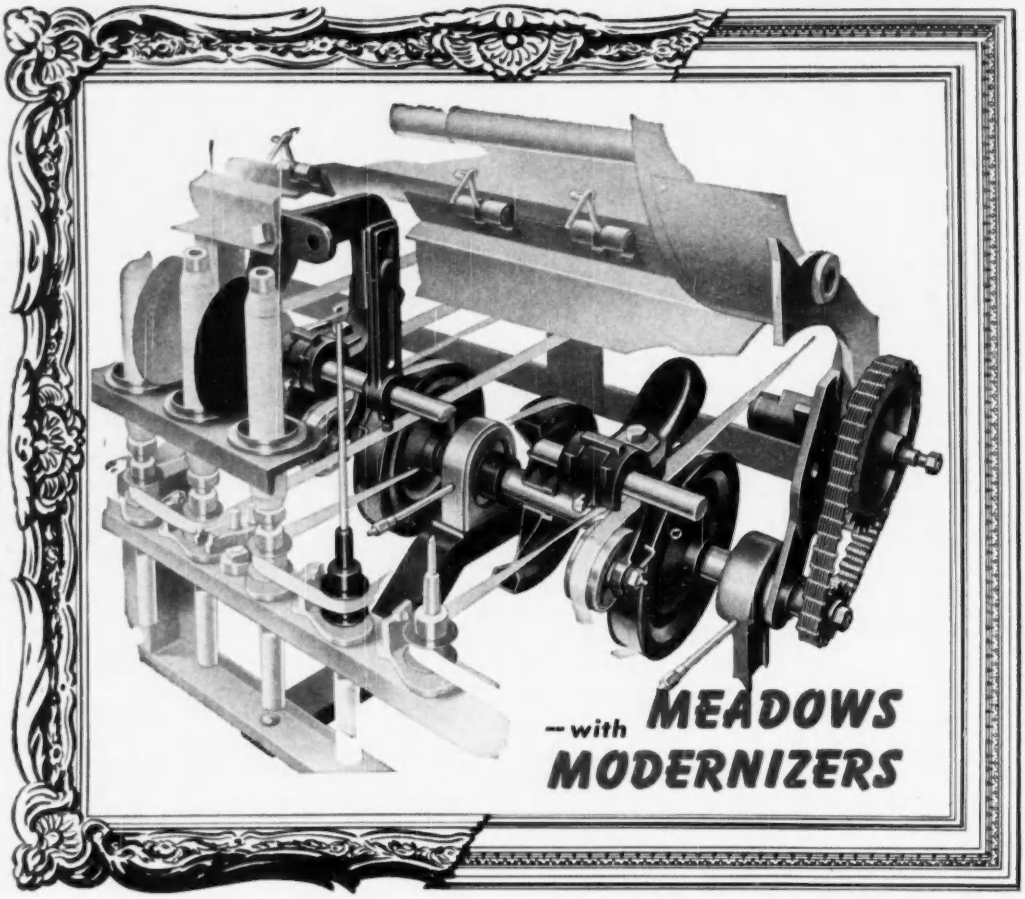
It is a combination of fine qualities that has made Diastafor the leader in its field for more than 40 years. You can use Diastafor—Type L—in a wide temperature and pH range, to meet all enzyme de-sizing requirements. It gives smooth, easy, economical operation and helps keep "problem lots" to an absolute minimum.

If you need help on a specific finishing problem, our technical staff is always glad to be of assistance, without obligation, of course. We'll be happy to have you write us at any time. Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED

NEW LIFE TO OLD FRAMES



OLD FRAMES can be fashionable when modernized with Meadows Conversions. In fact, old model band-driven or tape-driven frames can actually be made competitive with new frames at a *fractional part* of the cost of new equipment. Meadows Conversions consist of ball bearing tape tension pulleys, light weight solid aluminum separators, silent chain drive, individual drive pulley, and ground and polished shafting mounted on heavy duty ball bearings. With them you are assured of *low power consumption, no tapes off* due to choked or sticky pulleys, *less wear on yarn, increased output* and *no more cylinder trouble.* More than eight million spindles are today turning out more and better yarn at lower cost through being equipped with Meadows Modernizers. Why don't you investigate — *today!*

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H&B CASABLANCAS S-3

A New Spinning System for Synthetic Fibres!

During the past few years, H & B American Machine Company has devoted most of its research and development work to the improvement of high-draft spinning. H & B recently announced two new systems for cotton spinning: — the H & B Casablancas Super High-Draft System and the H & B Casablancas Four Roll High Draft System. Now H & B proudly presents its Casablancas S-3 System for synthetic fibers.

Developed primarily for synthetics and blends, the system is so flexible as to permit the spinning of all fibers from 1" to 3" in length. A Three Roll System with double aprons between the front and second lines, it features spring weighting, a new type saddle, and a cradle design with interchangeable platforms for different staple lengths. In a few minutes it is possible to change these platforms so that a frame which has been spinning staples up to 1¾" will spin staples up to 3";—no changing of cradles, belts, or roll settings.

Offering a drafting range of from 14" to 40", the H & B Casablancas S-3 System, utilizing a combination of *apron length, tensor opening* and *platform position*, assures complete fiber control, regardless of staple length.

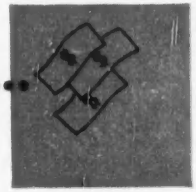
H & B AMERICAN MACHINE CO.
Builders of Modern Textile Machinery
FACTORY, EXECUTIVE OFFICES AND EXPORT DIVISION . . . PAWTUCKET, R. I.
Branch offices: Atlanta, Ga.—815 Citizens and Southern National Bank Bldg.
Charlotte, N. C. — 1201 Johnston Bldg.

Be sure to see this new system on display at the American Textile Machinery Exhibition in Atlantic City — May 8 to 12. Booths 144-158.

H&B MODERN TEXTILE MACHINERY
For Preparing and Spinning Cotton and Synthetic Fibers

SAVES TIME...

SAVES MONEY...



BROWN SPECIALIZED INSTRUMENTATION FOR THE TEXTILE INDUSTRY IS SETTING NEW STANDARDS FOR HIGH-QUALITY, LOW-COST PRODUCTION!

Provides Pace-Setting Simplicity For Any Piece Goods Dyeing Cycle . . .

the NEW BROWN DYE KETTLE CONTROLLER

HERE is an entirely self-contained, compact, flexible, precision instrument which provides the type of program control needed for modern piece dyeing.

The progress of the complete dyeing cycle is *recorded* . . . visually *indicated* with red, green and yellow signal lights . . . and *controlled* with pin-point accuracy through starting temperature, rate of temperature rise, dyeing or "hold" temperature and dyeing time. It features proportional rather than simple on-off control . . . assuring closer adherence to cycle set points, at lower operating cost!

The New Brown Dye Kettle Controller is designed to assist the dyer in obtaining maximum brilliance, levelness and penetration. Call in your local Honeywell engineer for a discussion of its application in your plant . . . he is as near as your phone!

WORLD'S LARGEST ORGANIZATION FOR ADVANCED INSTRUMENTATION AND CONTROL — COMMERCIAL • RESIDENTIAL • INDUSTRIAL

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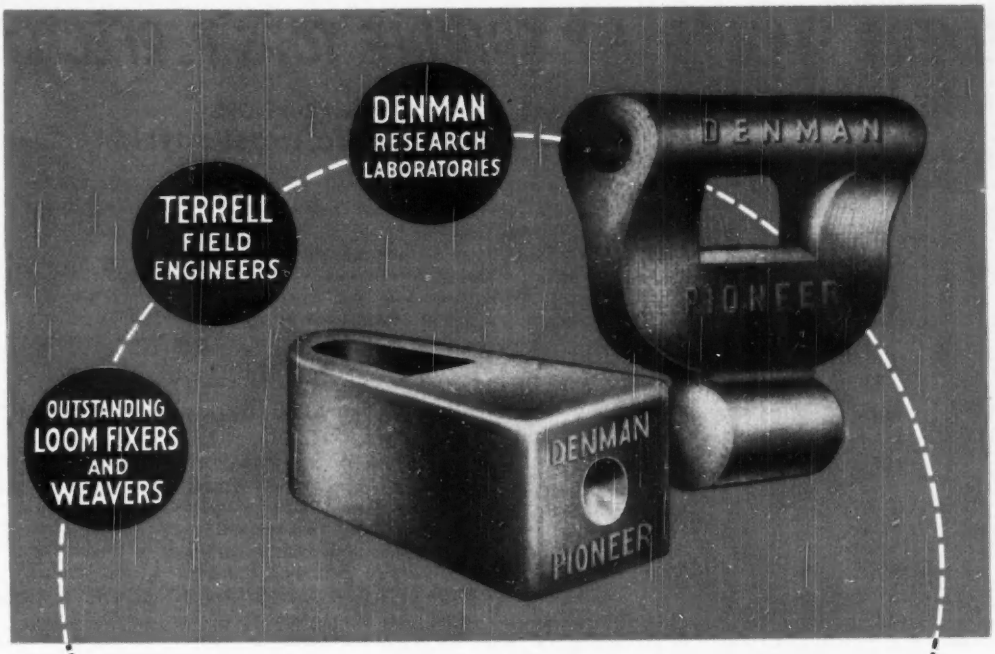

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It takes the close co-operation of outstanding loom fixers and weavers to continue to develop Denman Pickers with ALL the characteristics essential to meet your individual mill requirements

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From this continuous triple teamwork, you can expect, and you will receive, the superior pickers that give you

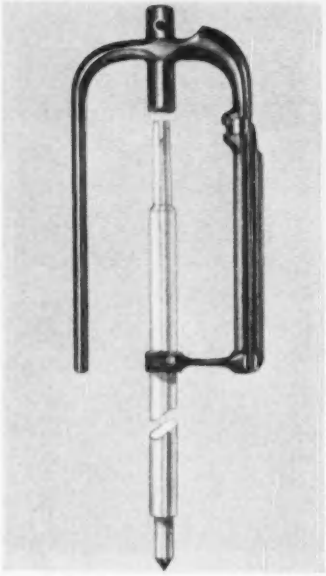
LOWEST COST PER LOOM PER YEAR

Exclusive Sales Representative

The TERRELL MACHINE COMPANY

CHARLOTTE, N. C.

FLYERS SHOULD FIT SPINDLE TOPS PERFECTLY



NO UP AND DOWN VARIATION
NO WOBBLING DUE TO LOOSE FITTING

Flyers and spindles properly rebuilt fit each other like a custom-tailored glove. Each flyer sits level with all other flyers and does not vibrate.
This gives three distinct advantages:
First, maximum builder stroke resulting in larger bobbins—
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Third, wear on flyer barrels and spindle tops minimized because of steady, well-supported operation.

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Ideal's 25 years of "know how" and modern tools assure you the best that can be had in flyer and spindle repair. With Ideal's pneumatic swaging machine the flyer barrel is drawn in .003" undersize inside diameter and then reamed by exclusively built tapered reamers to the diameter and taper specified by factory blueprints from Whitin, Saco-Lowell, H & B, and other manufacturers. Spindle tops are ground to these dimensions to a tolerance of .0005" on latest Norton plunge cut grinders, equipped with latest scientific controls.

WE INVITE YOU TO COMPARE OUR WORK WITH ANY OTHER SOURCE

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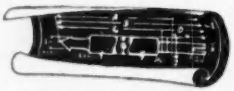
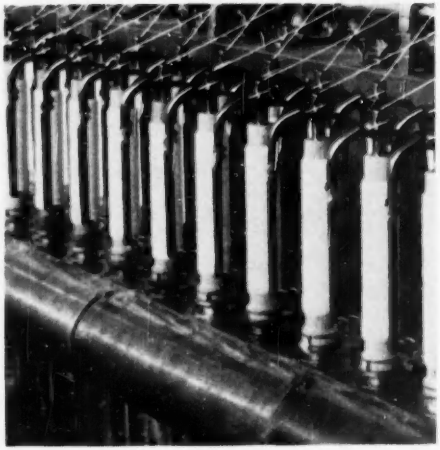


THREE FLYER REPAIR JOBS TO CHOOSE FROM:

1. RCK (Black) FINISH—rust resistant. This is our deluxe finish—over half million in use.
2. RAYON (Bright) FINISH—highly polished. This is our economical finish, more in demand than ever.
3. REGULAR REPAIR JOB, without polishing. All repairs but no polished surfaces, most economical.

All Three Jobs Fully Guaranteed



We furnish extra roving spindles and flyers while yours are being rebuilt.

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Phones 4161 and 4391
BESSEMER CITY, NORTH CAROLINA

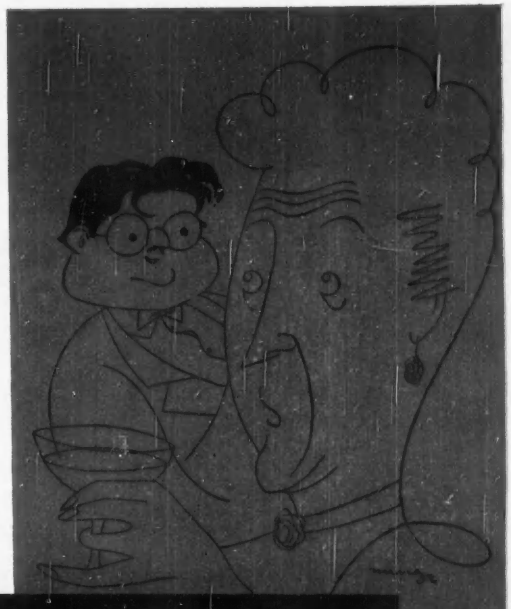
26TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

F A M O U S

Caustic Comments

In the course of conversation at a cocktail party, a tactless woman remarked to the late Alexander Woollcott, "I don't like you . . . I simply cannot *bear* nitwits."

"You are not at all like your mother, are you?" was Woollcott's caustic rejoinder.



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Caustic Soda

We have a CAUSTIC message also:

To better serve industry, Dow has unequalled distributing facilities.

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substantive softener

For lasting desirable softness on all fabrics and yarns
No discoloration or odor development.
Minimum shade change and effect on light fastness.
Compatible with most finishing materials over wide pH range.
Permits controlled exhaustion from bath.

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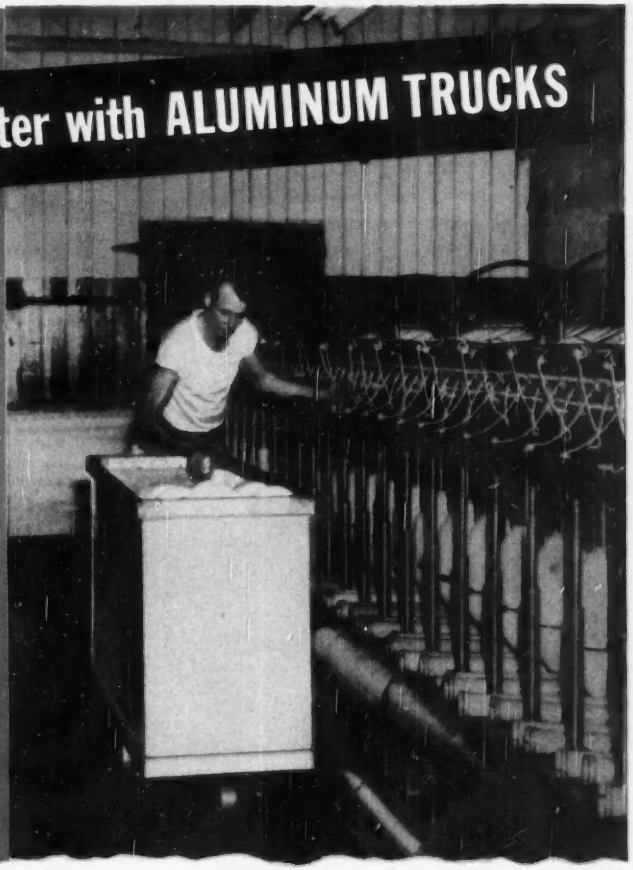
Handle roving faster with ALUMINUM TRUCKS

- *light weight*
- *non-staining*
- *no red rust*
- *eliminates painting*
- *high strength*
- *non-splintering*



Courtesy of Exposition Cotton Mill

Your workers can push trucks of Alcoa Aluminum with their knees. Both hands are free to doff full bobbins and replace empty ones. Your production increases. Workers like the effortless way they handle. Where corrosive atmospheres rust steel, aluminum doesn't even require painting. These long-lasting trucks never rust-streak yarns. Never raise splinters to tear fabrics or injure workers' hands. You'd expect to pay much more for trucks of Alcoa Aluminum. But the cost is right in line with wood and steel trucks. Exposition Cotton Mill is a typical organization that is including aluminum handling trucks in their modernization plans.

Like to know who makes trucks of Alcoa Aluminum? Mail the attached coupon to: ALUMINUM COMPANY OF AMERICA, 1990C Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA
FIRST IN
ALUMINUM

Gentlemen:
Please send a list of manufacturers who are making textile trucks of Alcoa Aluminum.

Name _____
Title _____
Company _____
Address _____

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

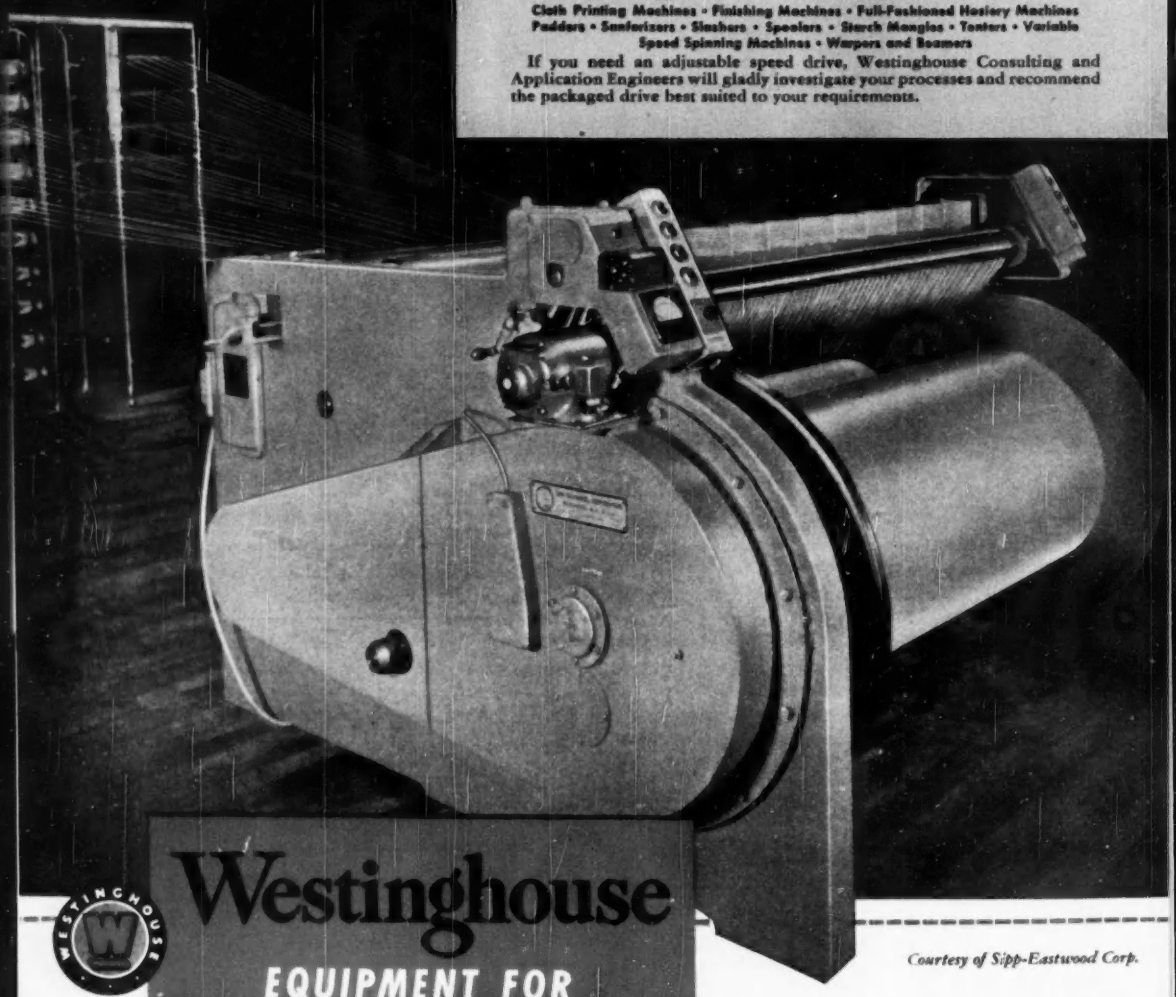
Typical Textile Industry Applications for Westinghouse Packaged Drives

Although packaged, Westinghouse factory-built drives are made by a "building-block" method that permits many optional features. These include: stepless, time-limit acceleration and deceleration, precision speed regulation, IR drop compensation, and extra exciter capacity for multimotor drives.

As a result, Westinghouse Packaged Drives are adaptable to many types of textile machines requiring adjustable speed drives. Here are some of the tried-and-proved applications:

Cloth Printing Machines • Finishing Machines • Full-Fashioned Hosiery Machines Padders • Sanforizers • Slashers • Spoolers • Starch Mangles • Tenters • Variable Speed Spinning Machines • Warpers and Beamers

If you need an adjustable speed drive, Westinghouse Consulting and Application Engineers will gladly investigate your processes and recommend the packaged drive best suited to your requirements.



Courtesy of Sipp-Eastwood Corp.

Westinghouse

EQUIPMENT FOR THE TEXTILE INDUSTRY

YOUR CHOICE

of Packaged Drives with Westinghouse

For many textile machine applications requiring a packaged drive, the improved performance desired can be obtained by using the type having an M-G set. Other machines require the all-electronic type for top performance.

With Westinghouse, you can have your choice:

AV Life-Line Packaged Drive. This drive, using an M-G set, gives adjustable speed control up to a range of 16 to 1. It is a simple, factory-wired package housed in one self-ventilated cabinet. It is economical in every way—first cost, installation, power consumption, maintenance and floor space.

Mot-O-Trol. This packaged, all-electronic, adjustable speed drive is designed for use with those machines that require extreme speed ranges up to 100 to 1, or precise speed regulation to as little as plus or minus ½%. Its heavy-duty components and simplified circuits assure trouble-free service under difficult mill conditions.

Both drives give you fast, smooth operation of those machines for which they are made. Each one is backed by Westinghouse unified responsibility for complete drive performance *as a drive.*

Besides drives—packaged and tailor-made—Westinghouse makes a complete line of electrical equipment for the Textile Industry. No matter what your needs, Westinghouse can supply them. Call your nearest Westinghouse District Office, or write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-94811

ESSENTIAL ELEMENTS OF WESTINGHOUSE PACKAGED DRIVES

This compact, freely-ventilated cabinet for the AV Life-Line Packaged Drive houses the complete power unit. The motor-generator set for power conversion, dynamically balanced to eliminate vibration, is rubber mounted in lower compartment. Cooling air for the M-G set is drawn through filters which are easily replaced.

Motor and control for either drive. Motor is standard SK Life-Line, d-c motor with bearings which require no lubrication. Operator's station with combined start-stop pushbutton and speed control knob—an exclusive Westinghouse feature—can be installed where most convenient. Reversing and inching are optional.

This is the self-ventilated Mot-O-Trol cabinet, containing all necessary circuits for the complete control of motors. Because of simplified circuit design, Mot-O-Trol has fewer tubes, potentiometers, resistors, capacitors and Rectoxes than any similar equipment. Rugged, industrial components resist vibration and give longer life.

DON'T LEAVE *Joe* BEHIND!

Of course *you're* going to the American Textile Machinery Exhibition in Atlantic City. You're well aware it's going to be the largest and most comprehensive exhibition of textile machinery in the history of the industry. You realize that you'll see there the latest equipment and devices developed by hundreds of manufacturers. You know *you* can't afford to miss it!

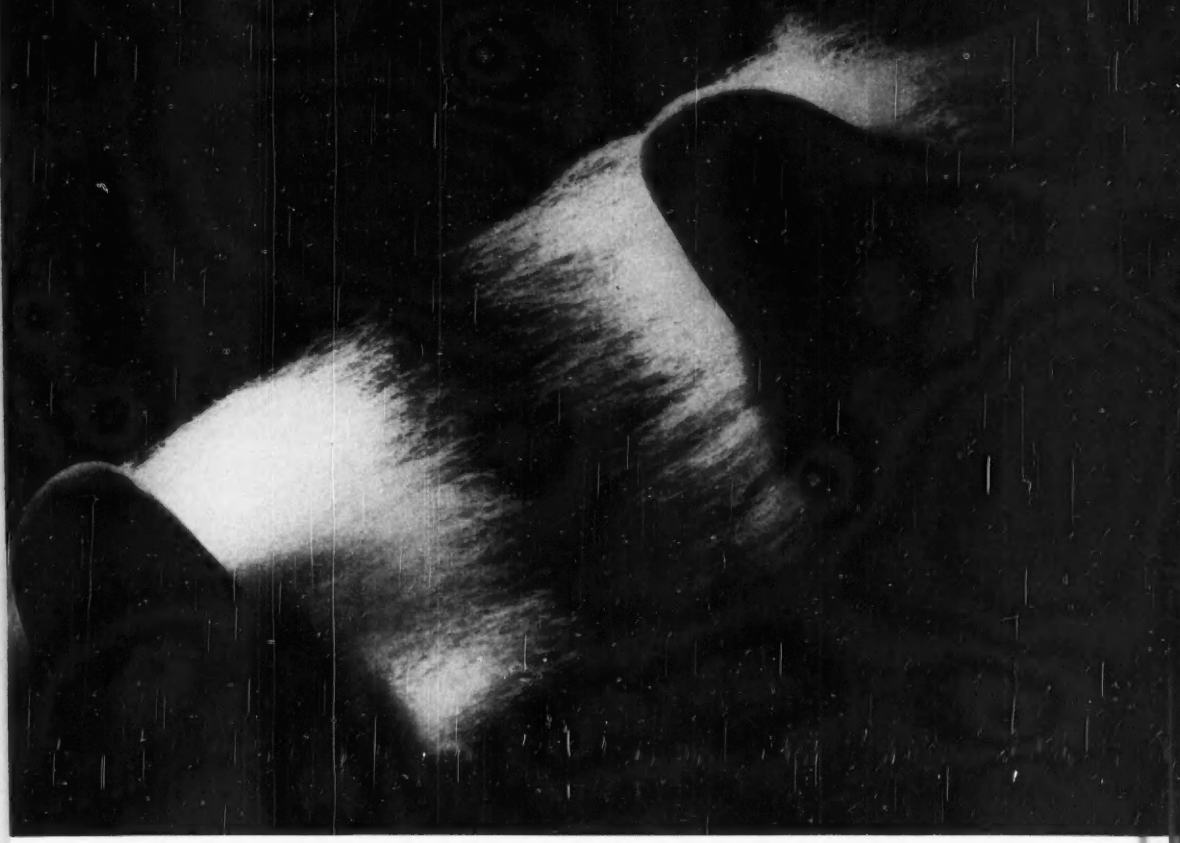
But how about Joe? Joe may be any one of the key operating men in your mill. He's part of your supervisory team; his opinions are valuable. He knows the limitations of your present machines . . . can see, at a glance, the benefits to be derived from the new machines exhibited . . . can appraise, from a technical standpoint, the improvements made in older models. He should play a vital part in the selection of new machinery to increase the efficiency of your mill. You can't afford to have *him* miss it either!

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

There is only one TECA fiber



*TECA is an Eastman trade mark. It identifies a short, crimped fiber made by Eastman from cellulose acetate—a fiber otherwise known as estron or acetate rayon staple.

Teca fiber has a long-sought combination of qualities never before available in any single textile fiber, natural or man-made. By mixing it with other fibers—such as viscose rayon, cotton, or wool—textile designers have created a basically new group of fabrics—the well-known "Teca blends," now in millions of men's and women's suits, slacks, sports shirts, and dresses.

A high Teca fiber content makes for dimensional stability in a fabric. It is one of the best means of achieving lasting wrinkle resistance . . . one of the surest aids in helping a garment hold its press. Pleasant feel, extraordinary soil resistance, inherent washability, quick drying, are other Teca advantages.

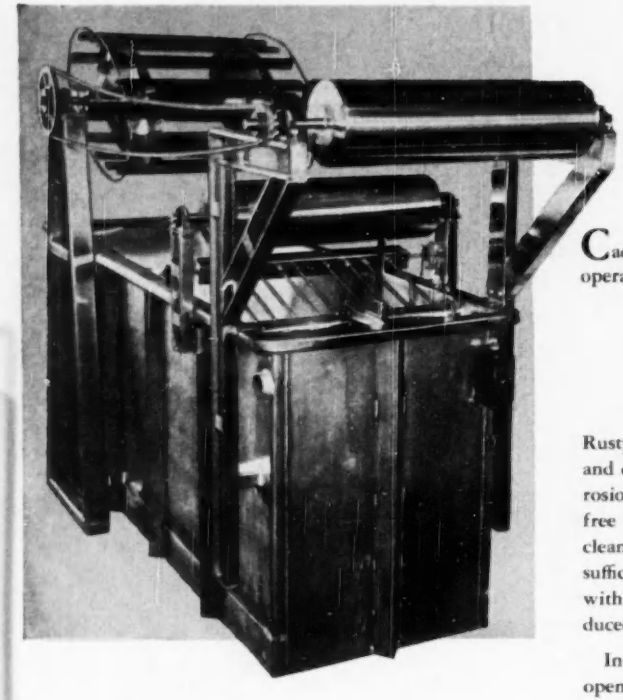
No wonder Teca is being featured more and more in retail store advertising . . . no wonder consumers want to be told of Teca-content. Remember there is only one Teca fiber, and Teca is a selling plus. Specify it. Advertise it.

TENNESSEE EASTMAN CORPORATION

(Subsidiary of Eastman Kodak Company)

KINGSPORT, TENNESSEE

Keep operating costs down with this all-Monel dye beck



Cadgene all-Monel* dye becks will help you cut operating expenses in *three* important ways . . .

1. **Longer equipment service life**
2. **Low maintenance costs**
3. **No losses from rust stains and contaminated dyes.**

Rustproof Monel withstands concentrated brines and caustic solutions without pitting or stress corrosion cracking . . . which means long and trouble-free life for Cadgene dye becks. Monel is easy to clean; merely flushing with tap water is usually sufficient. And since Monel does not readily react with dye solutions, metallic contamination is reduced to the vanishing point.

In Cadgene becks, the dye bath is heated by an open steam coil. The bath temperature is thermostatically regulated. Reel speed is governed by a Sterling Speedtrol, and is variable from 8 to 30 rpm. Tank, supports, and fabric contact surfaces are constructed of #11 gauge sheet Monel, with corrosion-resisting welded joints throughout. All-Monel Cadgene dye becks are available in several sizes, from 2 to 20 feet.

Whenever you need repairs or new equipment . . . consider the many advantages of Monel. Experienced Inco Nickel Alloy fabricators will gladly study your requirements. Or, if you prefer to do your own fabricating, your nearest Inco distributor stocks Monel in sheet, rod, tubing, wire cloth, Anchorfast nails and other fastenings.

Inco's Technical Service Department is always ready to help you solve metal and fabrication problems.

*Reg. U. S. Pat. Off.

• • •

For further information and prices on all—Monel Cadgene dye becks, write directly to:

CADGENE MACHINERY COMPANY
Patterson, N. J.

• • •

EMBLEM OF SERVICE
INCO
TRADE MARK

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

MONEL...*for Minimum Maintenance*

Right for fast application...for economy

Right for years of whiteness

RIGHT FOR MILL VILLAGES!

What do you look for in a mill village paint . . . fast, easy application? Excellent hiding and coverage? Years of good looks? You'll find all of them, and more, in Du Pont No. 40 Outside White.

Du Pont 40 saves you money right from the start . . . through smooth, easy application, solid hiding and exceptional coverage per gallon. All of this adds up to less time on the job, lower labor costs per unit.

Du Pont 40 is intensely white at the start and it *stays* white, through years of exposure . . . your village looks better, longer. That means improved employee morale, and better maintenance of your property.

In addition to better appearance, "40" gives you a surface at repaint time that is ready to take new paint, with a minimum of preparation.

Yes, check the advantages you want in a mill village paint, and you'll find Du Pont 40 is RIGHT. Why not let a Du Pont maintenance painting expert go over your requirements with you? Write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. TW-94, Room 7010 Du Pont Building, Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.
PAINTS
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

An Announcement to the

COTTON INDUSTRY

☆ ☆ ☆

Atkinson, Haserick & Co.

HAVE BEEN APPOINTED TO PRESENT TO YOU
THE HIGH SPEED, PRECISION MACHINERY OF

PLATT BROS.

(Sales Ltd.) Oldham, England*

This association makes the complete line of world famous Platt Bros. machinery plus the genuine engineering assistance and prompt service of Atkinson, Haserick and Co. available to every American mill.

We feel that the importance of this move warrants the greatest expansion in our 127 year history. Our established Boston office, combined with our new Southern Office, Engineering Staff and Supply-Parts Warehouses will bring Atkinson, Haserick and Co. within a few air hours of nearly every mill in the country.

**Including machinery manufactured by:*

Platt Bros. and Co., Ltd.
Howard and Bullough, Ltd.
Dobson and Barlow, Ltd.
Brooks and Doxey, Ltd.
Asa Lees and Co., Ltd.

PLATT COTTON WASTE MACHINERY

PLATT COTTON OPENING & PICKING MACHINERY

PLATT COTTON CARDS

PLATT COTTON "NUCLOTEX" CARDS

PLATT COTTON FLY FRAMES

PLATT COTTON SPINNING FRAMES

PLATT COTTON FANCY TWISTERS

also

RING TWISTERS MANUFACTURED BY TWEEDALES AND SMALLEY, LTD.

HOT AIR SLASHERS MANUFACTURED BY JOSEPH HIBBERT & CO., LTD.

An American Institution for 127 years

SUPER MARKET of the Textile Industry

Atkinson, Haserick & Co.
BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
211 Congress Street Boston 6, Mass.

PLATT BROS. & CO., LTD.	HOLDSWORTH GILL SCREW CO.
PRINCE SMITH & STELLS LTD.	PLUTTE, ROESKE & CO.
TAYLOR, WORDSWORTH & CO., LTD.	SELLERS & CO., LTD.
SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES	CENTRIF-AIR MACHINE CO., INC.
	JOSEPH HIBBERT & CO., LTD.

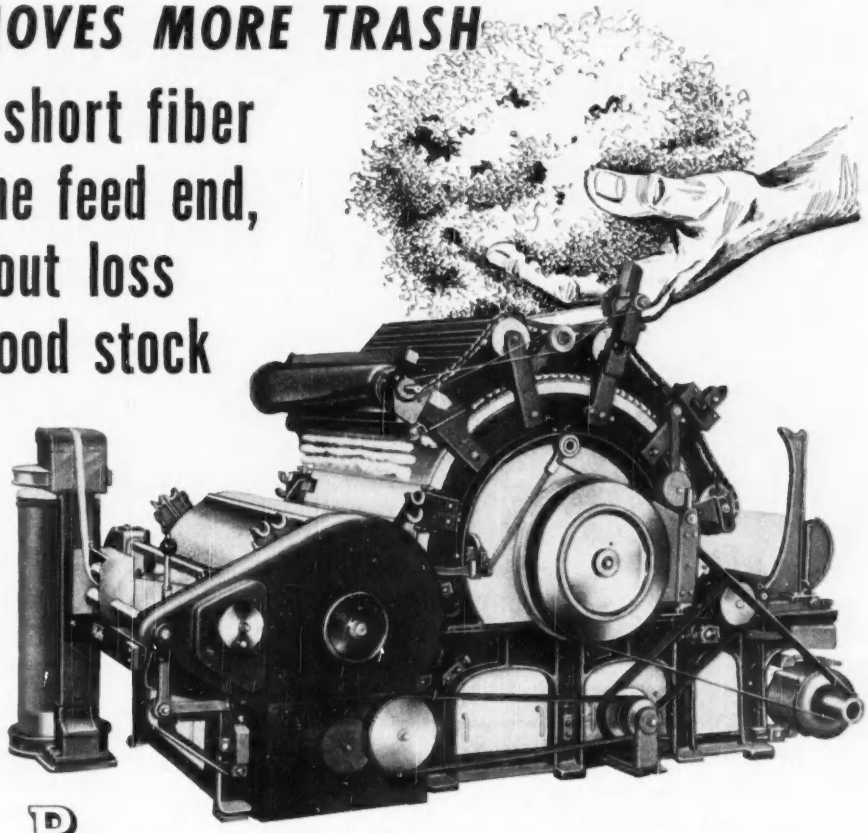
See the following pages for more Atkinson, Haserick news!

"NUCLOTEX" COTTON CARDING

REG'D U. S. PATENT APPLICATION No. A52,009

REMOVES MORE TRASH

and short fiber at the feed end, without loss of good stock



PLATT'S new cotton card, incorporating the "NUCLOTEX" (Reg'd.) SYSTEM, will increase production while maintaining quality; improve quality without reducing output; or it will, within limits, raise both production and quality! That's a lot to claim but those facts have been *mill proven*. The "NUCLOTEX" (Reg'd). SYSTEM also achieves greater regularity of weight per yard in the sliver and improves the sheen. If you are combing the sliver later, you will find this process easier with less waste to be removed at the combs. Full data on the "NUCLOTEX" (Reg'd.) SYSTEM and Platt Cards will be sent upon your request to Atkinson, Haserick & Co. in Boston.

MACHINERY OF:

PLATT BROS.

(Sales) Ltd. • Oldham, England

INCLUDING THE MACHINERY OF:

PLATT BROTHERS & CO., LTD. — DOBSON & BARLOW, LTD.
HOWARD & BULLOUGH, LTD. — BROOKS & DOXEY, LTD.
ASA LEES & CO., LTD.

INQUIRIES TO

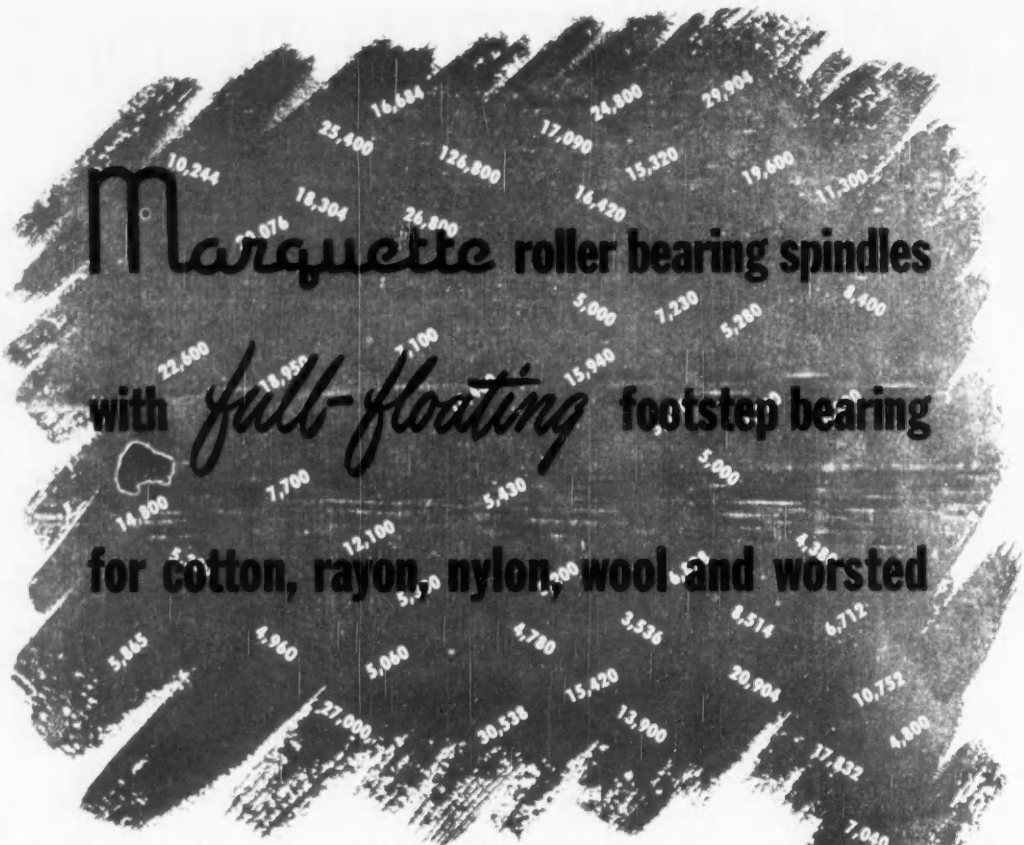
SUPER MARKET of the Textile Industry

Atkinson, Haserick & Co.

BUSINESS ESTABLISHED 1823

Textile Machinery Agents and Engineers

211 Congress Street Boston 6, Mass.



The above figures show some installations of Marquette Roller Bearing Spindles. In certain cases they were purchased to modernize old frames; in other mills they were specified on new frames. They save power, save tapes, save lubricant, and require less maintenance. They increase production through higher speeds, fewer ends down, and larger packages. Result: MORE YARN AT LOWER COST.

Let us prove this through a test installation. Contact our home office or one of our representatives.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette METAL PRODUCTS CO.
CLEVELAND 10, OHIO
SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives:
BYRD MILLER, WOODSIDE BLDG., GREENVILLE, S. C.
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Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTORS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIES

Textile Industries
Vol. 114 • No. 3 • Mar. 1950

Gruesome Stories---*but effective!*

WE HAVE recently read two of the most g r u e s o m e but thought-provoking articles we have ever seen published in an employee publication. They are case history reports of comber accidents, as told by the injured employees to the publication's reporter.

One of the articles carries a photograph of the normal hand and the injured hand of the operative; as a result of the accident two fingers are missing on the injured member.

But let the operative tell the story in her own words:

". . . I am left handed so I began cleaning around the noil roll with my left hand and let my right hand rest on the lap roll. Suddenly, the nipper caught two fingers of my right hand and pulled them into the half lap. I was caught off balance and couldn't straighten up to reach the knockoff lever and stop the comber so I jerked my hand back to keep the half lap from chewing it farther in.

"After I got my hand out of the comber, I looked down at it and saw that the end joints of the first and middle fingers were gone and most of the flesh was chewed or pulled off as far back as the knuckles and the bare bones were sticking out. . . . The doctor tried to give me a hypodermic, but I wouldn't have it because I was afraid it would make me so sleepy I couldn't work my hand and he would take it off.

"[later] . . . the specialist told me that my index finger and middle finger were drawing to the palm of my hand and if they were removed I would have good use of my thumb and the other two fingers, but if they were left like they were they would draw the other fingers down with them and I would have a useless hand.

"I knew that I had to work and couldn't do it with a crippled hand so I told him to go ahead [with the operation].

"Nothing can make my hand like it used to be, but I will be glad if reading about my accident and seeing the picture can help you save yourself from such a loss with all the pain and worry that I've been through."

The other operative had this to report concerning her comber accident:

"I was cleaning the bottoms of my coiler heads with card waste. Somehow the waste got caught in the gears and before I realized what was happening or could turn loose of the waste, it jerked my right hand up and the coiler head gear caught the first and middle fingers. I was squatting down and couldn't reach the knockoff lever so I grabbed my right wrist with my left hand and jerked as hard as I could to get my fingers out of the gears.

"There was nobody near my job when the accident happened except two girls from the standards department standing at the posting board. I called to them: 'Go see if you can find the overseer or secondhand—I've cut my fingers off.'"

Those two stories, told by operatives who have suffered through ordeals, will serve as grim reminders to other employees in the future. Comber accidents, and other accidents in the textile industry will continue, but operatives who read those two pointed reminders will be more careful.

IT HAS BEEN said that the driving force behind the industrial safety movement is that *accidents are expensive*. This may be true, but for the most part management feels a personal responsibility for the safe acts and the safe working conditions of the employee.

We have read that a generation ago the custom was, in the investigation of an accident, to condemn the injured employee as the only guilty party—his carelessness was the cause and he was solely to blame. This custom has been discarded, and in its stead we see such terms, which denote management's understanding, as: insufficient training, lack of planning, unsafe conditions, inadequate supervision, and mental condition. The responsibility is placed where it belongs.

Even though the responsibility for safe working conditions now has been accepted by management, and for the most part unsafe working conditions improved or remedied, it is still a difficult job to sell employees on the value to them personally of working in a safe manner. As long as the human element is involved in an operation, management will be faced with a continuous safety-selling job, for 88% of textile accidents* are caused by human factors.

Before the employee can be sold on the value of working safely, our industry will have to show him how he will profit thereby. Theoretically this is a simple and brief job, but practically it is a continuous operation. The reports of distressing accidents, such as the comber amputations carried in the e m p l o y e e publication, should be instrumental in bringing home the danger of working in a careless manner.

Some employee publications may be devoted to purposes which preclude the promotion of safety, but if safety and human conservation are within the editorial scope of the publication, case histories of accidents are an effective way to get the story across.—JCF

* 12% by mechanical means; 2% unavoidable.

At the Granby Halls
LEICESTER
ENGLAND
OCT. 11th – 21st 1950
inclusive

THE TEXTILE RECORDER
International
KNITTING
MACHINERY
& ACCESSORIES
Exhibition

No KNITTING or HOSIERY Manufacturer should miss this EXHIBITION

☆ *Last Year it was Manchester*
NOW IT'S LEICESTER

The tremendous enthusiasm which greeted the announcement of this Exhibition is testimony to the success of last year's Textile Machinery Exhibition in Manchester. Already half the floor space at Leicester is booked and it is clear that the most famous names in the trade will be seen in Granby Halls next October.

Note that this is an INTERNATIONAL Exhibition. Knitting Machinery Manufacturers from all over the world will display at Leicester the very latest developments from their countries.

For further information respecting this Exhibition, please address all correspondence to:-

Dr. W. Hubball, Managing Director,
Textile Recorder Machinery Exhibitions Ltd.,
Old Colony House, South King Street,
Manchester 2, England.

bayard t.r.e.c.1.

NEWS in BRIEF

Business to Suggest Strengthening Federal Policies. Secretary of Commerce Charles Sawyer has invited business men to give the Committee on Business and Government Relations the benefit of their ideas on strengthening federal policies to promote competition and to prevent monopoly.

Mill Burns Motes. A southern mill is now burning motes in combination with coal. Fuel costs are said to be reduced.

Wage and Hour Regulations. The Wage and Hour Division of the Department of Labor has issued new regulations governing wage and overtime exemptions for certain white-collar employees under the Fair Labor Standards Act.

Cotton for India. Serious efforts have been made by India to finance the purchase of at least 200,000 bales of U. S. cotton, needed to keep the Indian mills operating.

Electronic Shuttle Detector. General Electric, in cooperation with Crompton & Knowles, has developed an electronic shuttle detector which, in conjunction with dynamic braking control, has been successfully applied to large felt looms to ascertain when a faulty shuttle flight occurs and to stop the loom before there is resulting damage to the fabric.

Efficiency in Cotton Growing. Mechanization in the Mississippi Delta, where two-row tractor equipment and mechanical pickers were substituted for men and mules, has resulted in a reduction in labor requirements to produce a bale of cotton from 138 to 31.5 man-hours.

Eye Glass Tissues. Dow Corning has made available a container for industrial plants to hold Sight Saver tissues, specially impregnated eye glass cleaners which give clarity and luster to glass.

Pacific's 100th Anniversary. Pacific Mills this year celebrates its 100th anniversary. The company is publishing in 11 monthly installments the "Memoirs of a Corporation" which tells the company story in a new and original way.

More Crease-Resistant Cottons. Increased volume of crease-resistant cottons is forecast for this year, with some of the cottons said to be making inroads into wool's markets for summer suitings.

1950 MAID OF COTTON

Elizabeth McGee of Spartanburg, S. C., was named Maid of Cotton for 1950 in the recent contest sponsored by the National Cotton Council.

Said Maid McGee in giving a summary of her qualifications before the contest judges:

"It's easy to sell something you're sold on yourself—I love clothes; I love cotton clothes; and I would love to sell them to the world. It would be a pleasure."

New Union. Southern Workers Association is the name of a new and independent labor union with organizational ambitions for the South. Policies state that subversive elements will be kept out, and dues will be kept at home.

Investment for Cotton Mechanization. Complete mechanization of cotton farm today may entail a per-acre investment sometimes approximating the market value of the land itself, according to Dr. D. W. Brooks of Atlanta. For man-mule method of cotton farming, investment about $15 per acre; mechanized investment, $80-$90 per acre.

U. S. Rayon Capacity. Capacity of the U. S. rayon producing industry toward the close of 1949 totaled 1,196,000,000 pounds annually. By early 1951 an increase of 4% is estimated.—"Rayon Organon."

Aid to Industrial Time Studies. A wire recorder method of making industrial time studies is said by Georgia Tech to offer accuracy. The time study man talks into a regular wire recorder, tapping on the microphone at the end of each element of work. When played back, the clicks caused by tapping give time intervals; comments are on the record.

Individual Action—No Pattern. Mill men believe that the day of following a pattern as set by certain large mills, is over. They look for individual action for the future concerning wage increases, fringe benefits, and other factors which concern the manufacture of textiles.

No Takers. Prize awards went begging at a large university recently. No student turned in an essay on "Is Individual Thrift Outmoded?"

ECA Sponsors Modern French Tire Cord Plant. Economic Cooperation Administration has approved installation of modern equipment at the Lille (France) plant of LeBlan Compagnie, one of the principal French manufacturers of carded cotton tire cord.

Increase Exports. The following countries received more U. S. cotton cloth in 1949 than in 1948: Pakistan, Israel and Palestine, Thailand, Indonesia, Peru, Hong Kong, Turkey, and Honduras.

Misleading Labeling. Articles of clothing made principally of rayon and having a minor nylon content are reported to have been ticketed and advertised in a misleading manner so as to create the impres-

THE STRETCH IS *CONTROLLED* IN THE *NEW* JAY NYLON BAND

These new DuPont Nylon bands with the Nylon especially engineered through the proper combination of fibers for strength and wearability, are tension-measured so that the stretch is "controlled in the making."
Jay Nylon, Card, Spooler, Twister and Spinning Bands have these superior features:

1 . . . LONGER LIFE, which means more production—less replacements

2 . . . LESS SLIPPAGE, which means more *uniform twist*

3 . . . NO LOADING UP LINT . . . producing cleaner work

4 . . . NOT AFFECTED BY OIL OR MOISTURE

Every order is made to your specifications by men with years of experience, who take intense pride in quality workmanship.
Well past the experimental and testing stages, Jay Nylon Bands are being used by many mills . . . with complete satisfaction being reported in all cases (names on request).

WRITE TODAY
Textile Banding Co.
Box 1541, Athens, Ga.

We are interested in getting more facts about the Jay Nylon Bands.

(Name)

(Mill)

(Address)

Available in either Nylon or Cotton—double loop hook bands or the new type endless bands.

Use the coupon for further information . . . today.

TEXTILE BANDING CO.

A. S. Jay, Manager

BOX 1541 **ATHENS, GEORGIA**

sion that the articles were made of nylon, or with nylon predominating. According to FTC rules, fabrics and garments should identify the fibers present in the order of their predominance by weight.

Presetting Machine Avoids Tacking. The research division of American Viscose Corporation has perfected a presetting machine for handling acetate tricot in the open width which eliminates tacking. The process is speeded up, while waste is reduced and quality is improved. Building of this equipment is being undertaken by a textile machinery firm not yet identified.

Consumers' Needs In Textiles. W. E. Coughlin, director, textile laboratory, Good Housekeeping Institute, has reported that readers of his organization's magazine are eager for developments which lower the cost of upkeep and simplify the care of their textiles.

Nylon shirts requiring minimum laundering and no ironing are in demand. So are fabrics with a soil resistant finish such as those in the slip cover field treated with a resin finish. Fabric stabilization, particularly in curtain materials, is desired, and sheer glass curtain fabrics are meeting this requirement.

The failure of yarn-dyed taffetas to resist water spotting was cited by Mr. Coughlin as a major weakness, which, if incorrigible, should cause the fabric to be removed from the market.

Greater wrinkle recovery and better dyes possessing light and wash fastness must be achieved if the demand for a particular material is to continue.

Expansion of Mexico's Rayon Industry. Celanese Mexicana and Viscosa Mexicana are reported to be pushing plans for the production of new rayon fibers and for increasing the output of the filament yarn now being made. The proposed expansion is said to make the country independent of imports of rayon.

National Cotton Week, May 1-6. Theme for National Cotton Week this year is "Enjoy that Cotton Fresh Feeling." The campaign will be backed by the most aggressive industrywide promotion in the event's history.

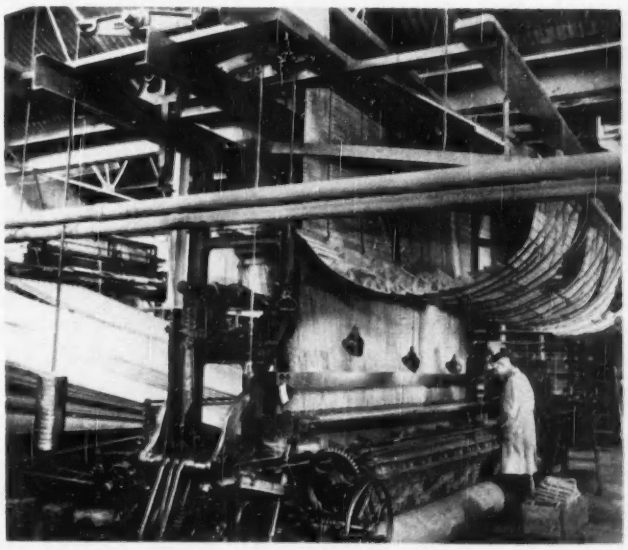
Decline in U. S. Wool Production. Production of wool in the United States continues to decline, and the 1949 output is 8% under production in the previous season. Based on nine months' data, 1949 apparel wool consumption will be 29% below the 1948 level.

European Textiles' Recovery Effort Termed Basic. The vital position of the textile industry in the recovery of Europe was evident from the start of the European Recovery Program. A textile committee was organized within the structure of the Organization for European Economic Cooperation (OEEC) to deal with problems of this industry. The committee's basic objectives include:

1. The study of measures and the creation of necessary bodies for the achievement of European economic cooperation, particularly as regards trade, international

BRITISH CARPET INDUSTRY 200 YEARS OLD

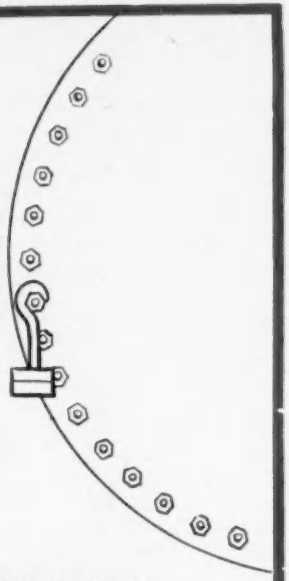
A seamless Axminster carpet being woven on a loom in the Kidderminster factory is representative of the modern design and tradition of carpets in the British textile industry. In 1948 Britain's carpet sales to the world were valued at $28,000,000 at the present rate of exchange. In the first nine months of 1949 the U. S. purchased $388,245.20 worth of British carpets at the present rate of exchange. Carpets have been woven in Britain for over two hundred years, and one of the early centers of the industry, Kidderminster, near Birmingham, now manufactures by modern methods about half the total carpet production of the country.



SLASHING HINTS

No. 13 of a series

STRETCH TROUBLES



Excessive stretch is sometimes a result of tight or faulty bearings on yarn-pulled cylinders. To check these, take all the yarn off the cylinder after a set has run out. Hang a two or three-pound weight on the edge of the cylinder, horizontally out from the bearing. This should give enough force to turn the cylinder if the bearings are in good shape.

Try it at a number of points around the cylinder. Sometimes a cylinder bearing will stick during only part of its revolution.

Of course, the cylinder should not have a heavy side which tends to stay near the bottom.

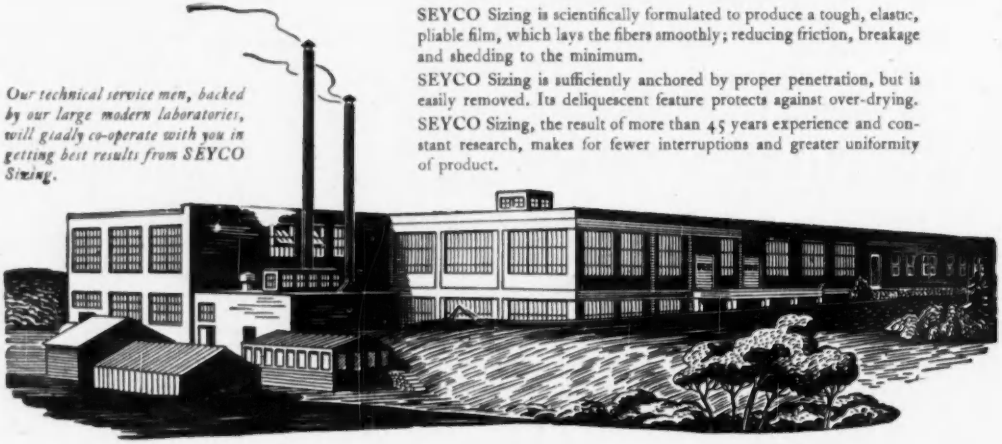
HEADQUARTERS FOR SIZE

Our technical service men, backed by our large modern laboratories, will gladly co-operate with you in getting best results from SEYCO Sizing.

SEYCO Sizing is scientifically formulated to produce a tough, elastic, pliable film, which lays the fibers smoothly; reducing friction, breakage and shedding to the minimum.

SEYCO Sizing is sufficiently anchored by proper penetration, but is easily removed. Its deliquescent feature protects against over-drying.

SEYCO Sizing, the result of more than 45 years experience and constant research, makes for fewer interruptions and greater uniformity of product.



SEYDEL-WOOLLEY & CO.

TEXTILE CHEMICALS

748 RICE STREET • ATLANTA, GA.

SEYCO

PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS • TWIST SETTER MACHINES •

payments, and movement of labor.

2. The drawing up of joint general programs and the study of measures to insure the best use of production facilities and manpower by the participating countries.

3. Making recommendations to the United States Government on the distribution of aid by the members and setting up machinery for the observation and review of the use of external aid by the countries concerned.

Textile production for Europe in 1952-53 is scheduled to be higher in every category than actual production in 1938. Plans for increased production are accompanied by an ambitious program of machinery replacement, modernization, and expansion.

Socialized Transport Losses. Britain's nationalized railways and motor carriers showed substantial operating losses in first year operations, according to the Transport Commission. The losses occurred in spite of the fact that the British economy is operating at full employment and production.

Incentive to Reduce Stream Pollution. A proposal recommends that amounts paid by plants for treating industrial waste be allowed an accelerated deduction in computing net income for tax purposes. The plan would enable textile plants to recover at least part of their costs.

Life of Stainless Steel. It is generally agreed that if stainless steel equipment is properly engineered and the proper type selected for the intended use, its life should be anywhere from 20 to 25 years. Close cooperation between supplier and user is absolutely essential if the wet processor is to have a minimum of trouble.

Refrigeration Gains in Importance. According to a report from ASME, in a 600-loom mill operating XD Draper looms on rayon fabrics with a thoroughly modern air changing humidifying system, the loomstops ranged from 2.3 to 5.4 per loom hour of production. The loom efficiencies averaged 92.6, and second quality ranged between 15 and 16 per cent. When refrigeration was added to this unit, the loomstops over a range of two months were from 1.2 to 2.9, and efficiencies averaged 96 plus per cent with the second quality dropping to a range between four and seven per cent. When refrigeration was stopped for adjustment, it was found that the loom stoppage and efficiencies almost immediately reverted very close to the original findings.

Plastics in Army Equipment. Increased use of plastics in army equipment is expected to result from adaptability tests being conducted by the Army Quartermaster Corps. Products being tested include tropical helmets, table tops, skis, bread-boxes, and

"LINTHEAD" FORGOT

that an air hose is deadlier than a rattlesnake!

This is one of a series of unique posters being effectively used in Alexander Smith & Sons Carpet Co. plants to communicate with employees on matters of safety, health, etc.

For details, see story by Richard P. Axten, Alexander Smith's manager of public relations. It begins on page 92.

SUNSHINE

NOW AVAILABLE

FOR INDOOR EMPLOYEES

The new Westinghouse Fluorescent sun lamp is capable of bringing indoors the beneficial ultraviolet rays of natural sunshine. Available in 20 or 40-watt sizes, it is identical in dimensions and electrical operating characteristics with standard fluorescent lamps. Lamp remains cool, yet can provide a quick or gradual sun tan lamp for a roomful of people.

BRUSH uniformity analyzer grades yarn accurately and shows you the results!

● Precision yarn grading at speeds up to 10 feet per second is now practical and economical with the new Brush Textile Uniformity Analyzer.

This instrument measures yarn, roving or sliver, from .08 to 150 cotton count . . . and at the same time it automatically provides a permanent, accurate chart recording of weight per unit length, or other similar calibration values. The measurement is independent of moisture content.

With only slight changes in calibration the analyzer may be adjusted to grade other materials such as nylon, rayon, Vinyon and wool, as well as plastic materials and various blends.

Since the material being tested is not touched during measurement except by the guide eyelets and feed rolls, it is not distorted or compressed in any way. Thus, after testing, the material may be subjected to further processing or other tests.

Get the full story of how you can benefit from the accurate measurements and permanent records of this versatile new Brush Uniformity Analyzer. Write today.

THE *Brush* DEVELOPMENT COMPANY
3405 Perkins Avenue, Cleveland 14, Ohio

Canadian Representatives: A. C. Wickman (Canada) Ltd., P. O. Box 9 Station N, Toronto 14, Ontario

Put it in writing with a

BRUSH RECORDING ANALYZER

STRAIN ANALYZERS • SURFACE ANALYZERS • CONTOUR ANALYZERS • UNIVERSAL ANALYZERS • UNIFORMITY ANALYZERS

trunk-lockers. Other studies include uses in fabrication of field desks, typewriter cases, furniture, portable shelters, and liquid containers. This winter, army teams will test plastic snow shoes, sleds and packboards. Low cost, light weight and weather-resistance are prime advantages.

Plant Maintenance Show. The First Plant Maintenance Show drew nearly 8000 engineers and maintenance men to Cleveland in January. Among the items displayed by the 112 exhibitors were floor, wall, and ceiling maintenance machinery and supplies; electrical, power plant, boiler room, and machine shop equipment; oils, lubricants, and protective compounds; sanitation products; and lighting apparatus.

Pictures of Old Textile Machinery. A series of pictures of old textile machinery as used in France and England in 1760 has been printed by J. H. Villard, Inc., 175 Fifth Ave., New York 10, N. Y. The prints are on "antique" paper.

Delayed Technical Programs. Many managements have delayed the initiation of technical programs because of the large budgets that they associate with research or because they may not visualize how scientists can fit into their mill organizations, according to the Newsletter of The Wool Bureau. The letter reassures management by noting that the most successful technical departments began with a single chemist or engineer who made himself useful, the cost of such technologist being less than that required to support a top-flight salesman.

Must Post Wage-Hour Notices. Regulations specify that "every employer employing any employees engaged in commerce or in production of goods for commerce shall post and keep posted such notices pertaining to the applicability of the Fair Labor Standards Act . . . in conspicuous places . . . so as to permit them [employees] to readily observe a copy on the way to or from their place of employment."

AND NOW, PLASTIC BEDSPREADS

The bedspread shown here is not satin, but Velon plastic (Firestone). A damp cloth is all that is needed to remove everyday dust and stains. Matching draperies and dressing table skirts are also available in the material.

Study Cotton Luster. Harris Research Laboratories of Washington, D. C., are studying how to improve the luster or sheen of cotton fabrics. The contract is let under the Research and Marketing Act of 1946.

Nucleonic Quality Control. Manufacturers of tracer equipment exhibiting at the American Association for the Advancement of Science convention in New York reported that several textile mills have already initiated quality control projects involving radiation detection principles. One such project will investigate sources and control of oil stains remaining in scoured wool yarns. Another project will attempt to control dye bath exhaustion, while still another will apply to effective detergent concentrations in scour trains.

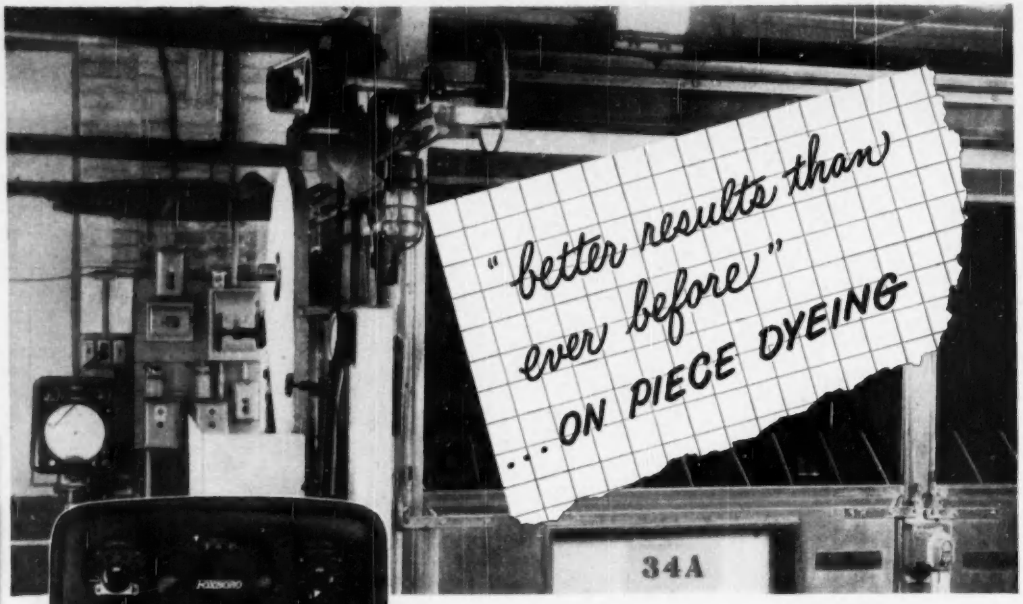
LABOR RULINGS

Although employer has right to demand election as proof of union's majority, he may thereafter be found guilty of refusal to bargain if demand is based upon "rejection of collective bargaining principle or by desire to gain time to undermine union."

In holding employer responsible for anti-union conduct, section hands who are at least in nominal charge of departments for short periods during absence of foremen are supervisory employees under act.

Top Bond Sales in Large Denominations. Series E Savings Bonds of $500 and $1000 face value have been contributing more to the annual dollar totals than the smaller denominations combined, according to figures compiled by the Savings Bond Division of the U. S. Treasury Department.

The $1000 bond alone has been averaging approximately 42 per cent of all E-Bond purchases in dollar totals in the last three years. The $500 bond sales represent about 14 per cent of the total. Thus the two together represent about 56 per cent of all E-Bond sales since 1947.



Here's the automatic control set-up that gave the improved operation reported by the R. Wolfenden & Sons, Division of J. P. Stevens and Co., Inc., Attleboro, Mass. It's a new Foxboro M-40 *Camless* Time-Schedule Controller installed on a 10 ft. Riggs & Lombard piece dye kettle. Features set knob adjustment for any rate of rise from ½° to 7½°F. per minute.

More uniform and exact shades . . . easy and accurate duplication of jobs . . . savings in over-all dyeing time . . . with much less attention by the operator . . . these are some of the *specific advantages* reported for Foxboro CycleLog Time-Schedule Control by the R. Wolfenden & Sons.

This important contribution to the art of textile dyeing is made possible by *the only camless* instrument for this type of service. The Foxboro CycleLog has no cams to cut — to select — to change — or to adjust!

The control schedule of the CycleLog is easily established in a few seconds by setting external control knobs. Widely different control schedules, available at turn of wrist . . . no cams to consider. Push button arrangement permits instant reset when repeating the cycle exactly. Standard M-40 Foxboro case houses complete mechanism.

If you are looking for a way to improve your dyeing operations . . . Foxboro CycleLog Control may be your answer. Send for Bulletin 438 providing complete descriptions. Or call your nearby Foxboro engineer. **The Foxboro Company, 18 Neponset Ave., Foxboro, Mass., U.S.A.**

M-40 CYCLELOG *CAMLESS* TIME-SCHEDULE CONTROLLER

1. preheats batch to uniform starting temperature and holds for preset warm-up period
2. increases temperature at *any desired rate* to pre-set holding temperature
3. maintains holding temperature for a pre-set period *after dye temperature is reached*
4. controls process shut-down at end of cycle
5. if desired, keeps batch at holding temperature for a pre-set overtime period after set time expires — then automatically shuts down

Colored lights indicate each step. Installation is easy, adjustment is easy, instrument is extremely accurate and flexible.

FOXBORO
REG. U. S. PAT. OFF.

Process-Improving Controls for the TEXTILE INDUSTRY

AN

EXECUTIVE VIEWS

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Cotton Council to Combat Welfare State

ONE OF THE broadest national programs ever to come out of a cotton meeting was evolved at Memphis in late January when the National Cotton Council, holding its twelfth annual session, outlined a program to combat the welfare state in a county-by-county campaign in the more than 3,000 counties in the United States. Representing farmers, ginners, cottonseed crushers, warehousemen, merchants, and spinners, the Council is ideally constructed to conduct such a "grass roots" attack. It has been estimated that some 15,000,000 people earn their livelihoods directly or indirectly from cotton, and by working together this group can accomplish much.

As we have pointed out before in this column, the people who work the other side of the street are not sparing any time, effort, or expense in selling the American public on the "evils" of the American system of free enterprise. They employ some of the most skillful public relations men in America and, all told, they are doing a much better job than is industry. It is time for all of us to wake up. Adolph Hitler proved that if you tell the people something often enough, they will finally come to believe it. For the past twelve or fifteen years the American people have been told so often that industry is bad and evil that there is little wonder that quite a few of them have come to believe it.

The Rich Will Pay!

These same people have been told just as frequently that all of their troubles and all of their problems will be solved by government and that such small expense as may be involved in reaching this solution will be paid for by the rich. A considerable portion of the American population now believes this quite firmly.

The plan drawn up at Memphis was one by which this insidious propaganda might be counteracted with authentic facts and figures. Those present at the meeting apparently felt that such information would be more effective if handled through the rural areas. A spokesman for the Council indicated that there was no reason why the socialist propaganda could not be overcome if the proper factual information were provided. As this magazine goes to press, it is not possible to determine how far the Council plans to go with this program, but it can readily be seen that it has a great many possibilities. It is a program which all of those connected with the cotton industry will watch with interest.

Foreign Trade

Also of interest to manufacturers who attended the Memphis meeting of the National Cotton Council was the discussion of foreign trade problems. The Committee on Foreign Trade presented several recommendations, all of which were approved by the full convention. Those which are believed to be of particular interest to tex-

UNNECESSARY WASTE NAMED COSTLY THIEF

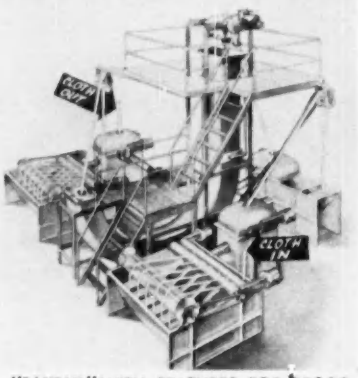
A recent issue of "U. S. Crackers," employee publication of the Hogansville, Ga., division of U. S. Rubber Co., carried this photo.

According to the caption, the mills are being robbed daily by a thief who cannot be conquered single-handed. The best efforts of each operative may combat the evils and apprehend the culprit whose banishment will pay dividends to all. If the thief is allowed to go unmolested, he will rob everyone of a part and perhaps his entire job. The thief is unnecessary waste, and he is shown hanging in effigy in the photo. The caption ended with: "Let's go after him and bring him to a well deserved end."

Something to "CROW" about

WIESNER-RAPP "BANTAM"

Reduced Size **CONTINUOUS BLEACHING RANGE**



"BANTAM" WITH FEATURES FOR BECCO PROCESS

"BANTAM" WITH FEATURES FOR DU PONT PROCESS

PRODUCTION PROVEN FEATURES ASSURE DEPENDABLE PERFORMANCE

This NEW "BANTAM" Range provides Small Plants with tremendous savings in man hours, chemicals and utilities.

THE "BANTAM" is COMPACT . . . made up of individual self-contained units.

THE "BANTAM" is VERSATILE . . . individual units quickly and easily adaptable to a wide variety of continuous processing.

"BANTAM" CAPACITY . . . up to 900 pounds an hour at speeds from 25 to 125 yards a minute.

Write TODAY for Bulletin T-103

Which Contains Interesting Facts About This Reduced Size Continous Bleaching Range.

THE WIESNER-RAPP CO., INC.
1602 SENECA ST., BUFFALO 10, NEW YORK
Manufacturers of Textile Finishing Machinery

tile manufacturers are quoted in the accompanying box.

With the threat of Japanese goods as well as goods from other countries staring us in the face, American textile manufacturers are particularly interested in foreign trade aspects. They are also, of course, interested in the export angle because they realize that they cannot maintain the currently high schedule of operations unless they can maintain a high rate of export. It is not possible to give here a complete picture of full discussions which centered around the foreign trade problem; nor is there space to quote all of the recommendations made by the Committee on Foreign Trade. The recommendations quoted in the box, however, will be of particular interest to manufacturers.

It will also be of interest to note that the Council's board of directors reaffirmed its confidence "in the basic principles of labor-management relations as embodied in the Taft-Hartley Act adopted in 1947 and incorporated in the Wood Bill passed by the House but subsequently recommitted, and the Taft Bill passed by the Senate during 1949."

The board also reaffirmed its position on legislation having to do with maximum hours and minimum wages. The Council continued to oppose the setting of unrealistic minimum wages by the government as well as the extension of the Secretary of Labor's power to set wages.

The convention also endorsed the objectives sought through the Hoover Commission Report. It urged Congress to act on the Hoover recommendations at the earliest possible date.

Numerous recommendations having to do with sales promotion, public relations and the production and marketing of cotton were passed. General satisfaction was also expressed over the progress being made in eliminating restrictions and taxes on margarine.

Foreign Trade Recommendations Adopted by Cotton Council

1. That United States policy be directed toward maintaining U. S. exports by building foreign purchasing power through increasing the purchases of foreign goods and services, and through foreign investments, on a multilateral basis through the normal private trade channels.
2. That in the administration of the Marshall Plan the Council urge rigid adherence to the original objective of basic rehabilitation, and the accelerated coordination of the economies of the recipient countries, in order to maximize their own resources, to expand their commerce with the United States, and to restore their international balance of trade and facilitate the convertibility of currencies, and to reduce United States grants to the absolute minimum necessary to these purposes.
3. That the United States seek to expand world trade generally through greater economic cooperation, the establishment of fair trade practices, the elimination of interferences and the reduction of barriers on an international basis.
4. That the gradual reduction of United States tariffs be continued on selective basis through the established framework, spreading the effect as widely as possible so as not to harm any particular industry.
5. That programs be devised which will enable cotton to maintain a competitive position abroad and thus obtain and hold our fair share of world markets.
6. That, to stimulate the movement of surplus agricultural commodities, a Farm Commodity Revolving Fund of $1.5 billion be authorized by Congress to be administered by the Export-Import Bank in making loans to exporters, importers, or approved governments to finance the exportations of these commodities.

March 25—Spring meeting, **Textile Operating Executives of Georgia**, 9:30 A. M., Georgia Institute of Technology, Atlanta, Ga. Place: Harrison Hightower Textile Engineering Building. Topics: carding and spinning.

Mar. 30-April 1—Annual meeting American Cotton Manufacturers Institute, Palm Beach Biltmore Hotel, Palm Beach, Fla.

April 24-28—Knitting and Allied Crafts Exposition, 71st Regiment Armory, New York, N. Y.

April 25-26—Annual convention, National Knitted Outerwear Association, Hotel Waldorf-Astoria, New York, N. Y.

April 27—Annual meeting, **Underwear Institute**, Commodore Hotel, New York, N. Y.

April 27-28—Spring meeting, **Fiber Society**, Fontana, N. C.

April 27-29—Annual convention, Alabama Cotton Manufacturers Association, Buena Vista Hotel, Biloxi, Miss.

April 28-30—Annual convention, **Delta Kappa Phi** Textile Fraternity, Lowell, Mass.

May 1—Annual meeting, National Association of Hosiery Manufacturers, Claridge Hotel, Atlantic City, N. J.

May 1-2—Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J.

May 1-6—National Cotton Week, sponsored by National Cotton Council.

May 5-7—Annual convention, **Phi Psi** Textile Fraternity, New Ocean House, Swanscott, Mass.

May 8-12—American Textile Machinery Exhibition, sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J.

May 11-13—Annual meeting, Cotton Manufacturers Association of South Carolina, Fort Sumter Hotel, Charleston.

May 11-13—Annual outing, **Carolina Yarn Association**, Carolina Hotel, Pinehurst, N. C.

May 17-19—Fiftieth annual (Golden Anniversary) convention, Cotton Manufacturers Association of Georgia, Sheraton Plaza Hotel, Daytona Beach, Fla.

May 25-26—Annual outing, **Chattanooga Yarn Association**, Lookout Mountain Hotel, Chattanooga, Tenn.

June 1-3—Annual convention, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C.

Sept. 11-13—Joint meeting, Southern Combed Yarn Spinners' Association and Spinner-Breeder Conference, El Paso, Texas.

Sept. 22-23 — Second Canadian Textile Seminar, Queen's University, Kingston, Ont., Canada.

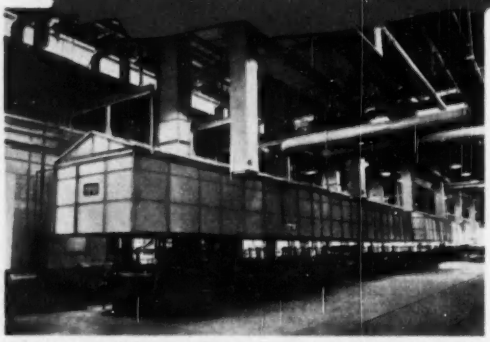
Sept. 28-30—Annual convention, American Association of Textile Chemists and Colorists, Wentworth-by-the-Sea, Portsmouth, N. H.

Oct. 2-7—16th Southern Textile Exposition, Textile Hall, Greenville, S. C.

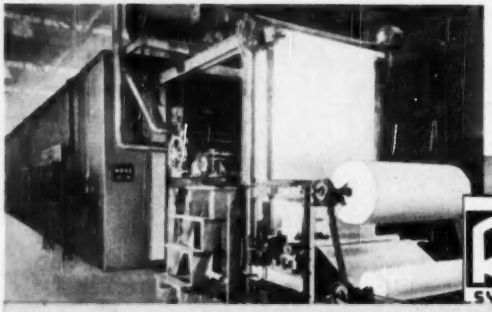
Oct. 12-13—Annual meeting, **North Carolina Cotton Manufacturers Association**, Carolina Hotel, Pinehurst, N. C.

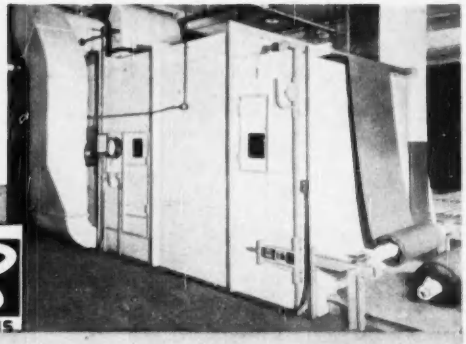
Oct. 26-27—Annual Convention, **Carded Yarn Association**, Carolina Hotel, Pinehurst, N. C.

Here's how the industry uses CONTROLLED AIR *for heating, drying, cooling, ventilating*



Each new installation of the modern ROSS Air Systems throughout the textile industry further testifies to their effectiveness in achieving greater production efficiency and operating economies. They are fast becoming standard equipment for confining and removing vapors to speed drying, to prevent spoilage from condensation, to eliminate fog, to provide comfortably cooled working areas and similar requirements. ROSS engineers, with the longest experience in handling air problems, will gladly survey your requirements. Investigate the possibilities for your plant.





ROSS SYSTEMS

ROSS ENGINEERED SYSTEMS EMBODYING, AS REQUIRED

Panel Constructed Hoods for dye jigs, dry cans, etc. . . . Vapor Absorption and Exhaust apparatus . . . Air Make-Up equipment . . . Roof Heating and Ventilating Ducts . . . Waste Heat Recovery Apparatus . . . Cooling Systems for aisles, motor generators, etc. . . . Room Air Conditioning . . . Drying Apparatus for coated, printed, saturated and similarly treated cloth and fabric.

ROSS SYSTEMS

J. O. ROSS ENGINEERING CORPORATION

MANUFACTURERS OF AIR PROCESSING SYSTEMS

350 MADISON AVENUE NEW YORK 17, N. Y.

201 N. Wells Street, CHICAGO-6 • 79 Milk Street, BOSTON-9 • 9225 Grand River Avenue, DETROIT-4 • 600 St. Paul Avenue, LOS ANGELES-14

ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

SHORTS and REMNANTS

January Editorial

"Jimmie Walker, Shelton Simmons, and I want to commend you on the editorial 'It Couldn't Happen to Us—But It Did!' in the January issue . . . had already heard a lot of favorable comment on this particular editorial both from mill men and from supply men . . . smiles and noddings of the head which editorial provoked."

RUSSELL GILL
Southern Sizing Co., Inc.
Atlanta, Ga.

● That fellow Gill is a VERY intelligent fellow. Knows how to operate too, even sent a copy of his letter to the boss.

Static Eliminators

". . . was very much interested in your article on radioactive static eliminators in the December issue . . . appreciate if you would send me the address of the concern manufacturing these anti-static strips.

E. N. DITTON
Research Director
Gotham Hosiery Co., Inc.
New York City

Do You Spark?

Then along comes a mailing piece describing equipment to dissipate static in the human body. It seems that the body acts as a storage battery for static electricity, but if you wear a device around the calf (for men) or higher (for women) with a ground under the shoe, all your troubles with static will be ended. We don't have one yet, but already feel right undressed without it.

Across the Desk

". . . please tell us from what company we can buy the book 'Time Study Fundamentals for Foreman'. . ."

". . . do you have or can you give me sources on material covering general accounting for the textile industry . . ."

". . . as speeder drive is one of our actual problems . . ."

". . . I am eager to obtain the first of two articles written by Tracy T. Teague on 'Stitch Cams in Circular Knitting.' "

". . . articles by Jesse W. Stribling. Please send all previous 15 issues carrying articles . . ."

". . . am trying to find a book of instructions and loom settings on marquisettes . . ."

". . . interested in obtaining information about B-5 knitting machines . . ."

● A sample of the letters that cross our desks, and we're happy to have them. We try to give the correct dope to all, but when we can't, maybe we can give a good lead to the source. Happy to be of service.

Is Industrial Advertising Read?

DuPont recently conducted a survey and study on industrial purchasing which confirmed surveys made by TI and independent research concerns. Of all the industrialists who participated in the survey, only four said they never read the advertising pages in business papers. 95% said they read the ads regularly or occasionally.

Answering the question "How do you obtain information about industrial supplies and equipment?" in the textile field, it was found that 83% of management and 81% of the production men obtain their information from industrial and business publications. 76% of both management and production men said they get the information from salesmen, 40% of management and 46% of production men from manufacturers' catalogs, and 47% of management and 43% of production men from direct mail.

When asked "Is the information contained in a manufacturer's advertising of value in your work," the following groups voted "yes": management 94%, production 95%, purchasing 94%, and research 92%.

WHAT: American Textile Machinery Exhibition.

WHERE: Atlantic City Auditorium, Atlantic City, N. J.

WHEN: May 8-12, 1950.

WHO: Manufacturers of textile equipment, supplies, and those furnishing services to the industry and textile men from the U. S. and foreign countries.

HOUSING: Write Housing Secretary, 16 Central Pier, Atlantic City, N. J.

INFORMATION: See April issue of TEXTILE INDUSTRIES.

Symposium on "Core Testing Wool" Registered

The 16-page color section on "Core Testing Wool" in the January issue registered with our readers, especially those in woolen and worsted plants. Manufacturers in cotton mills were able to get ideas from the story too. Our thanks again to the seven authors who made the core testing symposium possible.

Kindly forward 12 reprints of the series 'Core Testing Wool' which appeared in the January issue of TEXTILE INDUSTRIES.—A. G. Ashcroft, director of research, Alexander Smith, Yonkers, N. Y.

"Core testing article very interesting and enlightening."—Lawrence Andrews, general overseer, Royal Spinning Mills, Inc., Lowell, Mass.

"Please send us 6 reprints."—Roddy A. Field, J. P. Stevens & Co., Inc. Pilot Plant, Greenville, S. C.

"Appreciate receiving about 200 reprints."—D. C. Higley, wool purchasing agent, Bigelow-Sanford Carpet Co., Inc., New York.

"Please mark for my attention two reprints of 'Core Testing Wool.' "—H. B. Leavitt, Jr., M. T. Stevens Southern, Milledgeville, Ga.

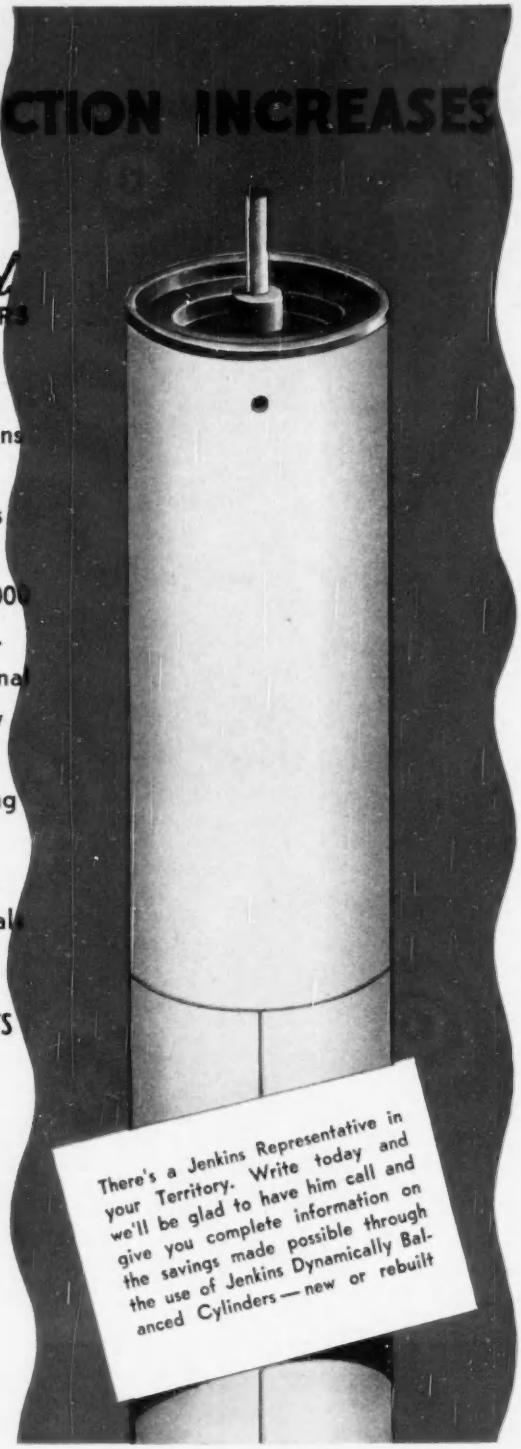
"Congratulations on the symposium on 'Core Testing of Wool'; I like the January issue very much."—Julian S. Jacobs, editor, "Textile Research Journal."

● The foregoing are typical of the requests and comments offered on the wool article. Reprints will be furnished to others so long as the supply lasts.

GET IMMEDIATE PRODUCTION INCREASES WITH

JENKIN'S *Dynamically Balanced* SPINNING CYLINDERS

© JENKINS METAL SHOP



Get higher spindle speeds in 1950 with Jenkins Dynamically Balanced Cylinders.
To assure absolute uniformity, every part is die cut and formed. To assure perfect balance, every cylinder is pre-tested up to 3,000 RPM on Jenkins' exclusive Dynamic Balancer. It is this precision workmanship and dimensional balancing that has made Jenkins Dynamically Balanced Cylinders famous throughout the textile industry. By completely eliminating cylinder vibration . . . yarn flows freely and smoothly at all speeds, excessive wear on spindles, bolsters, gears, bearing, and journals is eliminated. You get the

STEADY SPINDLE SPEEDS THAT MEAN STEADY PROFITS

There's a Jenkins Representative in your Territory. Write today and we'll be glad to have him call and give you complete information on the savings made possible through the use of Jenkins Dynamically Balanced Cylinders — new or rebuilt

JENKINS
METAL SHOPS
GASTONIA, N. C.

Textile Industries
MARCH, 1950

Workable Incentive Plan for Doffers

ITT Develops Automatic Hank Recorder

IF YOU are not getting maximum production from your spinning frames, or if your doffers are short doffing the frames, or trying to manipulate the doffing time so as to throw the doff on another shift, or if you are not getting accurate records of spinning production, then you will be interested in the system developed at Spray Cotton Mills which has proved very satisfactory in all of these respects.

By R. A. BUTLER
Manager
and
C. H. PETERSON
Time Study Engineer
Spray Cotton Mills

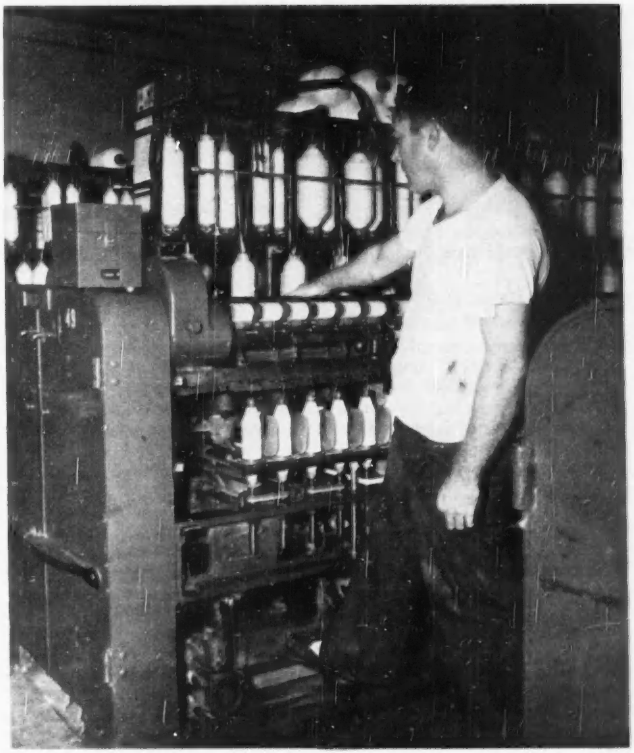
IN THIS DAY of keen competition it is most essential to reduce production costs to the lowest possible point. Since the spinning frame is a major producing unit in a textile plant, it deserves careful study to accomplish this. While the spinner and her efficiency has some bearing on the spinning production, it is the doffer who is the key employee in determining the spinning frame efficiency and total production. This is true because a high percentage of the down-time is time lost due to doffing.

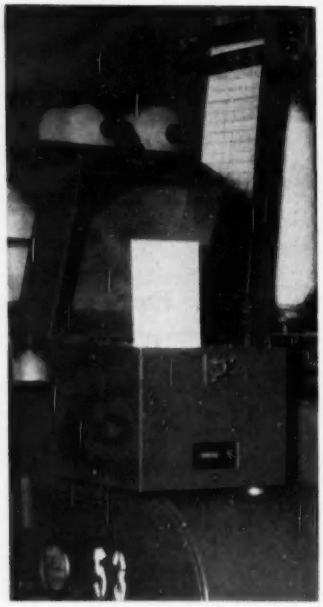
Therefore, if good spinning efficiency is to be secured, it is essential that a proper incentive pay plan for doffing be applied.

The Plan in Use at Spray. Here at Spray Cotton Mills we have used both the "Piece Work Based on the Total Doffs" method and the "Incentive Plan Based on Total Hanks Run" method. We experienced all the difficulties referred to in the accompanying discussion. Because of these unsatisfactory experiences, we started searching for a method of paying doffers that would overcome these difficulties.

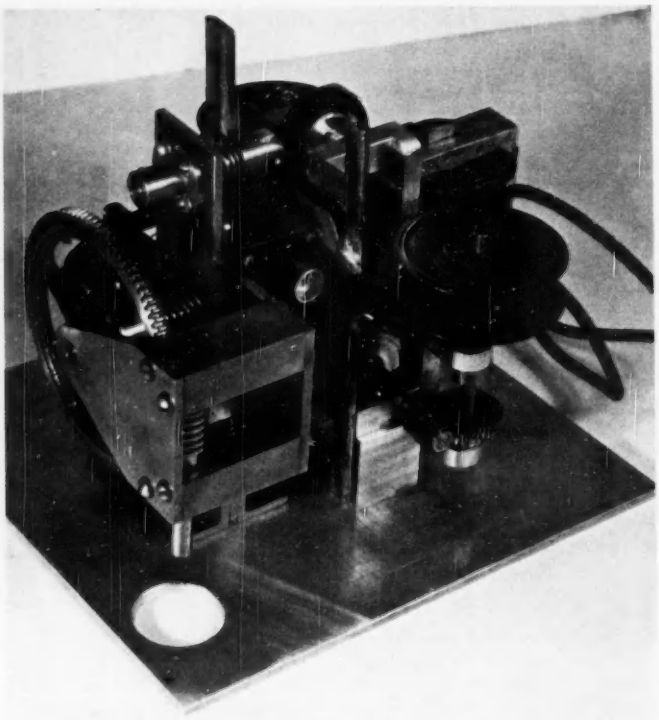
What we finally worked out was a plan that combined the pay by the doff and pay by the hank sys-

AUTOMATIC HANK RECORDER, developed by the Institute of Textile Technology, is shown on head end of frame. The mechanism automatically prints the reading of the hank counter on a 3x5 in. card at each doff of the spinning frame.





RECORDER WITH COVER RAISED and card ready to be inserted in slot provided for it.



HANK RECORDER WITHOUT COVER. Internal parts essentially consist of ratchet type printing counter mechanically driven from the front roll of the frame. The printing mechanism has three principal parts, a solenoid, a bell crank, and the over-running clutch. The solenoid is the prime mover of the component, is actuated from the 110 volt ac circuit by means of the automatic switch on the builder motion or the keyed switch on the recorder itself.

tems, applying the plan in such a way that the objectionable features were eliminated, and the desirable ones retained.

Calculating the Rates. In explaining the steps necessary to calculate the rates, we will assume that the count of yarn is 16s warp twist run on a 2 1/8 in. diameter ring, and on eight (8) inch stroke.

Step 1. Determine The Time In Minutes To Doff One Frame, and this is done by making a study and establishing the actual normal minutes to doff one frame.

Step 2. Determine The Number of Hanks Per Doff for each of the counts of yarn being spun, which

Types of Incentive Pay Plans for Doffers

THERE are two principal wage incentive methods or piece work plans for paying doffers, and doubtless many variations of these two basic methods. These will be discussed briefly and the advantages and disadvantages of each pointed out.

Piece Work Based On The Total Doffs. This method is straight piece work, and the doffer's pay is calculated from the total doffs per shift at a fixed price. When rates are correctly established this system has the advantage of encouraging the doffers to doff as many frames as possible and immediately compensates the doffer in direct proportion for work actually done on each shift.

The disadvantages of this system are:

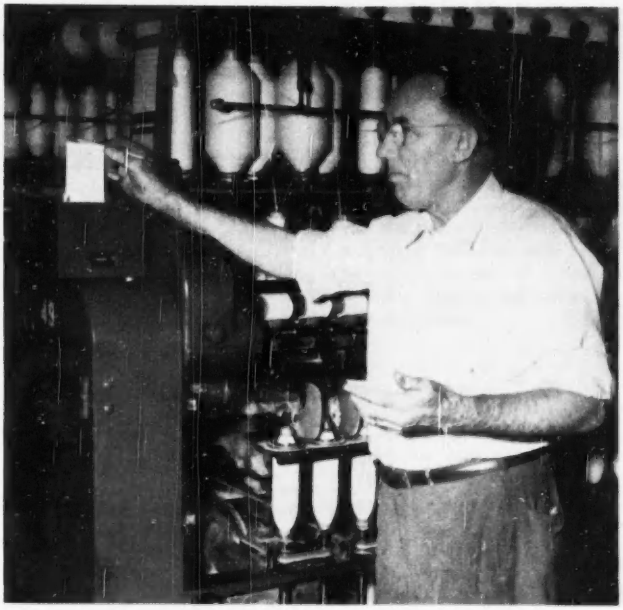
(1) There is little incentive to keep the frames in operation, particularly if the frames will not doff again on that shift. Therefore, lower production is the result.

(2) The doffers will short-doff the frames to the extent that they can get away with it, so as to get as many doffs as possible. This not only cheats the shift that follows out of the doffs, but results in constant friction between the foreman and the doffer, and between the doffers on the various shifts.

(3) The short-doffed bobbins, because of the smaller quantity of yarn, may cost up to 20% more for spooling or winding, and of course, less yarn per bobbin means more knots and poorer weaving quality.

(4) It is difficult to get a correct tally of the number of frames doffed per shift by each doffer. This is especially true where a variety of counts are being run with different doffing cycles.

Incentive Plan Based On Total Hanks Run. The other basic plan which has been used to a considerable extent in more recent years is to pay the doffers on the basis of the hanks produced on the frames assigned to the doffer. A scale of hank rates for the various counts of yarn and sizes of bobbins would be established,



SEQUENCE OF OPERATION. At shift change the supervisor opens the box to remove the card for the shift just ending and inserts a card for the new shift. Opening the box automatically prints the reading of the counter. Likewise, closing the box also prints the reading on the new card.

Every time the ringrail is lowered to the starting position (as it must at each doff) the counter reading is printed automatically. Consequently a printed card is provided for each frame, for each shift, with the following information (1) the reading at the start of the shift (2) reading at each doff, and (3) reading at end of shift.

Total number of printings on the card, less two, is the number of doffs. Difference between the first and last recording is the number of hanks of yarn delivered for the shift. The number of hanks per doff can be computed easily.

In addition, by means of a separate keyed switch, the supervisor or other authorized person can actuate the printing mechanism at any time.

FRAME NO: 49
COUNTS & TWIST 14 W
DATE 11-2-49 SHIFT 1st
READING LAST DOFF 810

825
853 - 4.3
897 - 4.4
902

Hks. run — 7.7

THE RECORDER'S RECORD. The card shows number of times frame was doffed, total hanks run, and hanks per doff.

is found by taking a series of readings on the frames, reading the hanks at the time of the doff. Usually a considerable increase in the "hanks per doff" will result from this study.

Step 3. The Time Per Hank for doffing the various counts is next found by dividing the "Actual Time Per Doff" by the "Hanks Per Doff."

Step 4. Divide The Time Per Hank Into Two Parts for the purpose of paying the doffer both for the actual hanks produced on the frames and for the number of hanks doffed.

The "time per hank" can be divided on any basis that suits the conditions in a particular mill. In our case it was decided that a

based on the number of hanks of yarn on the bobbins or per doff.

This plan furnishes a strong incentive to keep the frames in operation and thus produce as many hanks as possible. The several rather serious disadvantages are as follows:

(1) This system presents quite a supervisory problem, to prevent the doffers from leaving frames to be doffed at the end of the shift, and to prevent them from so manipulating the doffs that the doffs will be thrown onto another shift.

(2) Under this system of paying the doffers by the hanks produced, the actual work done is not in direct relation to the pay received. As an example, a frame run on a count of yarn where the doffing cycle is approximately five or six hours, the doffers on one shift would doff the frames once per shift, while the next shift would doff them twice. Frequently this situation continues for several days, and could continue over a considerable period.

The man doffing the frames only once actually receives slightly higher pay than the man who doffs them twice because of the slightly higher machine efficiency While this situation averages out reasonably well over a week's time, it is a source of irritation and dissatisfaction on the part of the doffer since all operatives like to be paid for each day's work in direct proportion to their out-put.

Features of a Desirable Plan. A plan that would be especially desirable would be one that would overcome the objections referred to in the preceding paragraphs, and provide the proper incentive to encourage the doffer and be to his advantage to do the job correctly. These features would be:

1. The highest possible machine efficiency.

2. The correct amount of yarn on the bobbin.

3. An incentive for the doffers to do as much work as possible.

4. An incentive to leave the frames in good condition for the next doffer.

high machine efficiency was of first importance, therefore the larger amount was paid for the hanks run on the frames. Consequently the time was divided on the basis of:

65% of the time to be paid for hanks run.

35% of the time to be paid for hanks doffed.

Step 5. The Base Pay or Rate is next decided upon, and this divided by 60 to arrive at the price per minute of work.

Step 6. Is to Calculate the Rates for the "actual hanks run" and the "hanks doffed" on the frames assigned to the doffer.

To arrive at the rate for the "actual hank run," 65% of the time per hank as ascertained in Step 3, should be multiplied by the price per minute as ascertained in Step 5.

The rate for "hanks doffed" is similarly obtained by multiplying 35% of the "time per hank" as ascertained in Step 3 by the price per minute.

Application of the Rates to Calculate Doffers Earnings. For the purpose of illustrating how the rates are arrived at in Step 6, are actually applied to calculate the doffers' earnings, it will be assumed that the doffer working alone has been assigned twenty frames all on the one count of 16 W.T.

Frame No.	Hanks Run	Hanks Doffed 1st Doff	Hanks Doffed 2nd Doff	Hanks Doffed Total
1	7.7	4.5		4.5
2	7.6	4.6	4.5	9.1
3	7.8	4.6		4.6
4	7.8	4.5		4.5
5	7.7	4.6	4.5	9.1
6	7.7	4.6		4.6
7	7.8	4.5	4.5	9.0
8	7.6	4.6		4.6
9	7.6	4.7	4.6	9.3
10	7.5	4.5		4.5
11	7.8	4.5	4.6	9.1
12	7.6	4.6		4.6
13	7.7	4.7		4.7
14	7.6	4.6		4.6
15	7.8	4.5		4.5
16	7.7	4.6	4.6	9.2
17	7.5	4.7	4.7	9.4
18	7.7	4.6		4.6
19	7.7	4.7	4.7	9.4
20	7.7	4.7	4.7	9.4
Total	153.6			133.3

The doffers' earnings for "hanks run" will be the total of hanks run (in this case 153.6) multiplied by the rate as ascertained in Step 6.

The doffers' earnings for "hanks doffed" will be the total of the hanks doffed (in this case 133.3), multiplied by the rate as ascertained in Step 6.

The sum of the earnings for "hanks run" and "hanks doffed" will be his total earnings for the day.

Explanation of How Incentive Applies. It can be seen from the foregoing that the doffer's pay comes from two sources: 65% of his pay comes from the total hanks produced on all the frames assigned to him, and 35% from the actual hanks doffed.

This means that since a large part (65%) of a doffer's earnings is derived from the total hanks run that he is going to do everything possible to keep the frames on the tight pulley the highest possible percentage of the time. Hence high machine efficiency and high production will result.

Then with 35% of his earnings coming from the total hanks doffed, he is going to doff as many frames as possible during the shift. Since, however, this part of his pay is on the basis of "hanks doffed" and not "frames doffed," there is also the incentive to put all the yarn possible on the bobbin before doffing. In this way he will get the highest price for doffing the frame. When this system was installed a definite rule was made to the effect that no doff would be paid for unless it contained at least the standard number of hanks; however, it has seldom been necessary to apply this penalty.

Results of Incentive. Summarizing the foregoing, it has been shown that this method of paying doffers results in the incentive being all in the right direction and encourages the doffer to:

1. Produce the highest number of hanks and thus get the largest possible production.

2. Doff as many frames as possible, and not try to manipulate the doffing so that the following shift would be left with the work to do.

3. Fill the bobbins to maximum capacity and thus reduce the spinning frame stoppage, and at the same time furnish the succeeding process of spooling or winding with a full package and thus obtain the benefit of lower cost on these subsequent operations.

Getting the Records. This then brings up the problem of how to get the record of "hanks per shift" and "hanks per doff" for each of the doffers.

The "hanks per shift" is comparatively simple since this is taken directly from the hank sheet, which is the same record used to pay the spinners. The secondhand on each shift reads the hank clocks at the end of each shift which furnishes this information.

The matter of getting the "hanks per doff" is more difficult and requires reading the frame hank clock at the time of the doff and recording the reading on a card, so that the proper shift and doffer will get credit for doffing the frame.

There are three methods that were considered to get the "hanks per doff." The first was to have the doffers themselves read the hanks and record the readings on a card attached to the head of the frame. The objection to this procedure was that the doffer would be keeping his own record. This would doubtless result in a constant argument between the doffers on the various shifts. Then too, it was found that some of the doffers had little experience in recording figures and were not confident that they could do it accurately.

The second method was to have a special checker or hank reader, whose job it would be to follow the doffers and read the hank clocks at the time of the doff. This method was adopted and has been in effect up until the present time. The disadvantage of this method is that it requires the addition of an employee on each shift to follow the doffers and read the hank clocks, and in a very large spinning room might require more than one "doff checker" per shift.

However, the pay plan worked so extremely well, and was so satisfactory to the doffers themselves, that it was decided that the additional cost for getting the hank readings was justified.

Automatic Hank Counter Developed. This additional cost started a train of thinking and ques-

tioning as to whether or not some mechanical device could be developed to automatically record the hank readings at the time of the doff. At this point the problem was turned over to the Institute of Textile Technology at Charlottesville, Virginia.

The Institute developed the counter which is shown and described in the accompanying illustrations. It has now been in use for some time, and we are highly pleased with its usefulness and performance.

What the Doffers Think of the Plan. Without exception all of the doffers in the plant are well satisfied with the plan, and some are even loud in their praise. When questioned about the pay plan, one of the oldest doffers in the mill in point of service made the following statement:

"It is the fairest pay plan I have ever worked under. I remember we always had trouble and dissatisfaction when we were paid by the doff, and the same was true when we were paid by the hank, but under this system it is to our advantage to doff as many frames as we can, and also to keep the frames running, and to fill up the bobbins. I like it and wouldn't want to doff any other way, and I am sure the other doffers feel the same way about it."

Test Hook-Up for Atomizer Heads

Staff Prepared

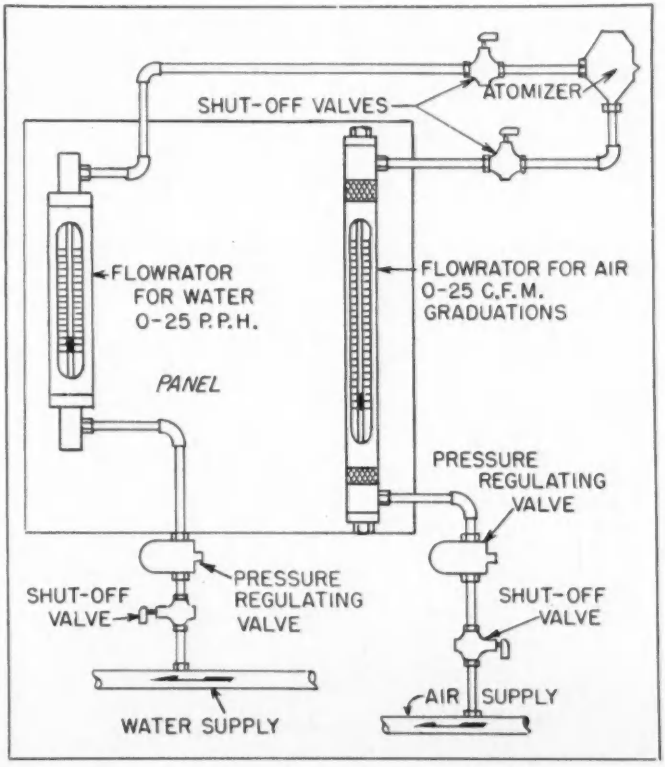
IT IS NECESSARY that humidification atomizers be cleaned and checked from time to time, for dirt from water and air lines accumulates after a period of operation. Even when filters are used on both the air and water lines leading to atomizers, a little gets through to throw the air-water ratio out of balance. Also, the rubber or synthetic valve seats in the water valves tend to swell and change the atomizer adjustment slightly.

It is the job of the maintenance department to keep these atomizers in good condition, but when they are removed for cleaning, it is difficult to reset them correctly so that the proper output of moisture is obtained when reinstalled.

Recognizing this problem, the engineers of The Bahnson Company and Fischer & Porter Company have worked out a hook-up, which can be easily installed in any maintenance shop, to test atomizer output after cleaning.

The hook-up consists of two Flowrators, one for air and one for water, mounted side by side on a panel. The lower connection of each Flowrator is connected to its air or water supply through a pressure regulating valve and a shut-off valve. Tubing leads from the top of each Flowrator to any spot where an atomizer may be conveniently connected. There should be a shut off valve in each of these lines.

The atomizer to be tested is placed in position and connected to the upper tubes leading from the Flowrators. All shut off valves are then opened, and the delivery of air and water read from the Flowrators. Atomizers are then adjusted until the proper amount and ratio of air and water output is achieved.



LINTHEAD'S MOVING machine bites the hand that cleans it!

Everyone else is clean except Pig-sty LINTHEAD!

LINTHEAD'S abuse of fire equipment puts YOU out of a job!

Posters Aid Employee Communications

WHAT is the best way to improve employee understanding and cooperation on such matters of mutual concern as safety, health, absenteeism, and fire prevention?

There probably is no "best" way to perform this important job of communications. A medium which meets the needs of one company may be totally unsuitable for another. However, the story of how Alexander Smith & Sons Carpet Company solves this problem is an interesting one, readily applicable to the needs of other manufacturing concerns.

Absenteeism doesn't bother LINTHEAD!

Alexander Smith communicates with its employees on these matters by means of a unique series of posters which features an amusing personality called Linthead, a scatter-brained character whose humorous but dangerous antics epitomize the common mistakes which so readily can lead to personal injury, illness, or loss of production.

Linthead, who is probably the most widely known personality today in the Smith mill at Yonkers, New York, is the brainchild of Murray D. Ewing, director of industrial relations, who became dissatisfied with the effeteness of the usual bulletin board material. While numerous posters were available from outside sources, Mr. Ewing reasoned that what was needed was a poster series which depicted actual operations and equipment in the Smith mill in order to create personal identification in the minds of the more than 6,000 employees of the mill.

Remembering the tremendous success of the Navy's wartime Dilbert series, Mr. Ewing sought out Robert Osborn, Dilbert's talented creator, and suggested he

MRS. LINTHEAD thinks it's smart to be SMUTTY.

LOOK OUT LINTHEAD the JACK POT is DISCHARGE!

in Alexander Smith Mill

EXCLUSIVE

By R. P. AXTEN
Manager of
Public Relations

apply much the same approach in a series designed for the mill. Osborn made a trip through the mill and, intrigued by the possibilities, submitted a number of preliminary sketches. The name and character of Linthead gradually evolved as a way was sought to feature actual Smith operations and equipment in the most interesting possible manner.

Linthead, a dopey-looking fellow with a towering tuft of lint-like hair, was first used to point up common violations of safety rules in the Smith mill, but it became quickly apparent that Linthead could be used to spotlight other topics of mutual importance to Alexander Smith and its employees. Among the subjects covered so far are health precautions, absenteeism, on-the-job alertness, improper use of equipment, horse play, smoking rules, and fire prevention.

Several of the posters have also featured the equally hair-brained antics of Mrs. Linthead in order to appeal to the hundreds of feminine employees. Since the series started last year, thirty of the copyrighted Linthead posters have appeared on more than 100 bulletin boards throughout the Smith mill.

The posters are printed in color in the company's own printing department.

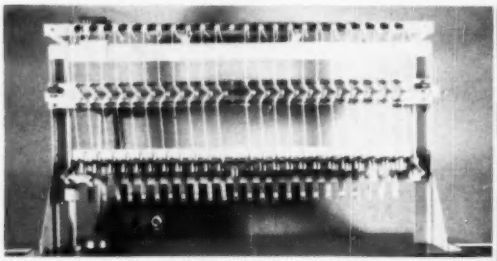
Linthead's popularity is now firmly established among Smith's thousands of employees, and his name has become a synonym for carelessness. In fact, "Don't be a Linthead" is now frequently heard in the Smith mill as a phrase of warning against thoughtless or dangerous action.

Modified Abrasion Test

By
JAMES W. STALLINGS
Director, Sou. Textile Research Lab.
Penick & Ford, Ltd., Inc.

and
DANIEL L. WORTH
Research Chemist, Penick & Ford, Ltd., Inc.
(Present address, Mooresville Mills, Inc.)

This test was too severe - - - -



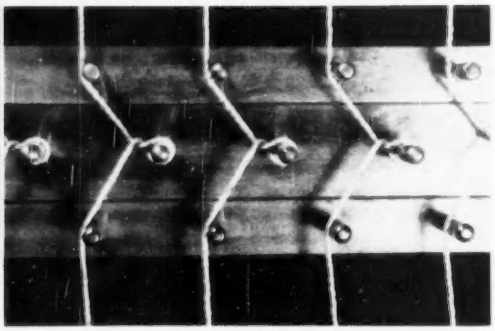
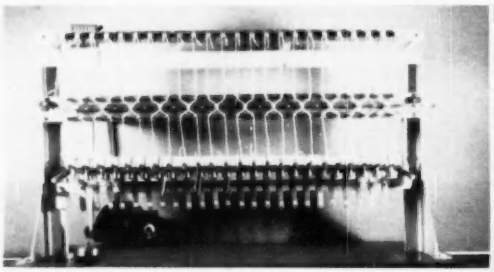


Fig. 1. The Walker Abrader. Note method of threading the machine. This loop test, close-up of which is shown in **Fig. 1a** at right, was found to be too drastic for spun yarns.

Not sufficiently severe - - - -



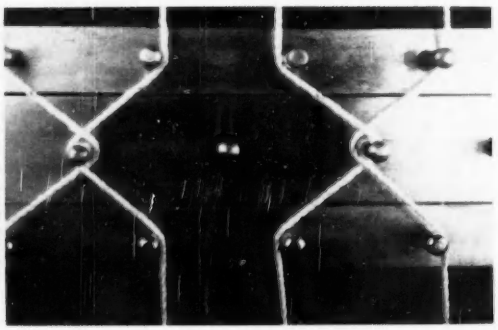
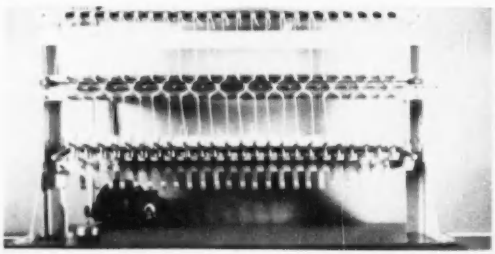


Fig. 2. Threading of abrader for less drastic crossed yarns test. Two ends are used, working against each other, as shown in **Fig. 2a** at right. Test was not sufficiently severe.

The test adopted by Penick & Ford - - - -



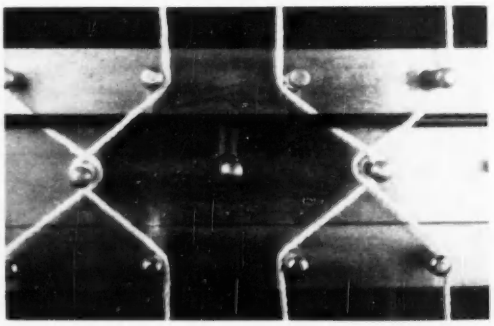


Fig. 3. Threading of abrader for the Penick & Ford Abrasion Test for Spun Yarns. Note glass rod in close-up in **Fig. 3a** at right. Test is described in detail in accompanying text. It has been used since 1947 to evaluate starch and starch gum sizings.

for Warp Sizing Study

THE accompanying article is a description of tests performed on the Walker Abrader to evaluate various types of warp sizings. The original Walker loop test, which was found to be too severe for ordinary spun yarns, has been modified successfully so that the laboratory tests on warp sizings prove reliable when checked in the mills on a production basis. The method described permits mill laboratories to experiment with different sizings on a small scale prior to making production runs in the plant. It has been in use since 1947.

Introduction. The basic instrument on which the Penick & Ford Abrasion Test was worked out is the Walker Abrader which was designed by Dr. A. C. Walker of the Bell Telephone Research Laboratories. Dr. Walker's loop test (see Figs. 1 and 1a) was tried but was found to be too drastic for ordinary spun yarns.

After numerous attempts to devise a suitable test, a less drastic Crossed Yarns Test (see Figs. 2 and 2a) was worked out which gave a good separation of differently sized yarns. However, this test was not considered to be sufficiently severe so the test was modified to give a decrease in cyclic running time to less than half, and produce fuzziness in the abrading zone which is to some degree comparable to the action on a loom.

Modified Crossed Yarns Test. This modification consists of a ⅛ in. diameter glass rod inserted above the upper cross (see Figs. 3 and 3a) so as to bring the yarns closer together in the abrading zone. This modified crossed yarns test is the test referred to as "Penick & Ford Abrasion Test for Spun Yarns" and has been used successfully since March, 1947, in the company's Southern Textile Research Laboratory to evaluate starch and starch gum sizings.

This laboratory test has been proved as reliable when checked in the mills on a production basis.

Test Procedure. To thread up the machine an individual strand of yarn is attached to the top stationary plate, right end, with the first clamp (see Figs. 3 and 3a). The yarn is then brought downward and to the right of the first pin in the top row of the movable pin plate, to the left of the pin in the middle row, to the right of the first pin in the bottom row, and is attached to the movable clamp at the bottom which applies the load.

A second strand of yarn is attached to the stationary top plate by the next clamp, brought downward and to the left of the second pin in the top row of the movable plate, to the right of the pin in the middle row, underneath the first yarn, to the left of the second pin in the bottom row, and is attached to the second movable clamp at the bottom which applies the load. The two strands of yarn are now crossing each other in opposite ways above and below the center pin. This process is continued until twelve pairs of strands have been threaded to the abrader. A glass rod of ⅛ inch diameter is inserted (from the left) between the first and second rows of pins in front of the first strand and behind the second strand of each pair (see Fig. 3a). The glass rod serves to bring the yarns closer together at the upper cross. Attachments for the glass rod may be provided (by the machine shop) at each end and at the middle of the movable plate.

Operation of Abrader. The abrader has a speed of 44.4 cycles per minute and will handle strands of yard 12¾ inches long. The stroke of the movable plate may be varied, but the maximum stroke is favored and has been used in the Penick & Ford Abrasion Test. This stroke is 1 9/16 inches which abrades a zone at the yarn cross equal to 1 29/32 inches. The yarn bend angle at the cross is 85 degrees.

Due to the friction between

DESCRIPTION OF THE ABRADER

In the center of the abrader is a plate 2½ in. wide extending horizontally along the length of the machine. Extending lengthwise of the plate are three rows of pins (24 pins per row) which project ¾ in. perpendicularly from the plate. The three rows of pins are ¾ in. apart and the pins in each row are 1¼ in. apart.

The pins in rows 1 and 3 are lined up vertically but the pins in row No. 2 are displaced one half the distance between the pins towards the right. The plate with pins attached is fastened to one end of a lever which has a fulcrum near the center of the machine. A motor is attached to the other end of the lever in such a way as to produce an up-and-down motion of the plate. The stroke of this up-and-down motion may be varied.

Directly above and in line with the movable plate is another plate to which is attached 24 clamps. These clamps are in line vertically with the top and bottom rows of pins. Directly below and in line with the movable plate is another row of 24 clamps which are attached to the ends of 24 small levers.

These levers are also attached in such a way that the clamps are lined up vertically with the top and bottom rows of pins. The movable plate, at the center of its swing, is approximately equidistant from the two rows of clamps. The small levers at the bottom act about a fulcrum at the opposite end from the clamps.

Sliding weights are attached to the small levers between the fulcrums and clamps. The force acting at the clamps can be varied by sliding the weight backward or forward along the levers. The load may be increased or decreased as yarns of greater or lesser strength are abraded.

HOW RESULTS OF TEST ARE SHOWN BY GRAPH

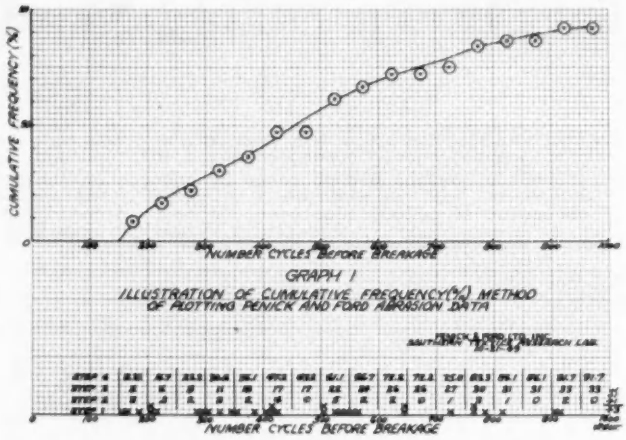
In **Graph 1** is illustrated the "cumulative frequency (%) method" of plotting Penick & Ford Abrasion data:

Cumulative frequency plots are certainly not the only means of presenting abrasion data but this method has proved itself to be quite useful and is described in detail herewith and in Graph 1. The number of cycles at breakage of each end is recorded until three sets of 12 samples each (36 samples) have been broken.

The individual values are plotted on graph paper by making a block graph with class interval of 10 (see Graph 1—Step 1). For example, the first break occurred at 151 cycles which lies between 150 and 160. A cross was made on the graph in the space between 150 and 160. This process was continued until all the values were recorded.

The accompanying table contains all the values for the curve in Graph 1 so that experience may be gained by checking them.

Set 1:	151	501	555	813
	204	527	643	919
	324	532	788	1000+
Set 2:	162	292	382	763
	200	309	425	766
	214	357	721	1000+
Set 3:	188	403	507	643
	281	416	540	900
	346	417	567	1000+



GRAPH 1
ILLUSTRATION OF CUMULATIVE FREQUENCY(%) METHOD OF PLOTTING PENICK AND FORD ABRASION DATA

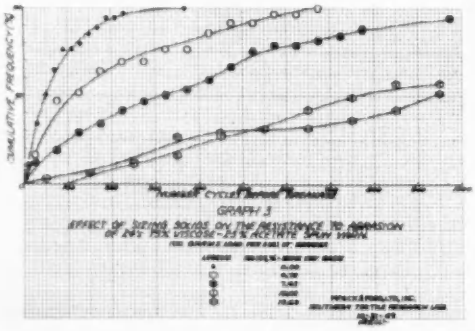
The values of 1000+ indicate that the test was stopped at 1000 cycles. This fact is indicated on the block graph by placing a + 1 at the end of the graph just beyond 1000 cycles.

The next step is to determine the size of the class intervals and to count and record the values in each class interval. Tiffin—"Industrial Psychology," page 334—has found that a total of 12 to 18 class intervals give the best presentation of frequency data. The foregoing data are such that a class interval of 50 gives a total number of 17 class intervals, i.e. $\frac{1000 - 150}{50} = 17$. The class intervals are marked off starting at zero and the number of values in each class counted and recorded (see

yarns and between the yarns and the pins, the tension in the upper leg during the downward stroke may be as much as 50% more than the load on the yarn below the pin plate. During the upward stroke the tension in the upper leg may be reduced to almost zero. This flexing and relaxing of the yarn as well as the wear at the cross is what makes this test somewhat comparable to loom action.

Graph 3. Effect of Sizing Solids on the Resistance to Abrasion of 24s 75% Viscose-25% Acetate Spun Yarn. 100 grams load per end on abrader.

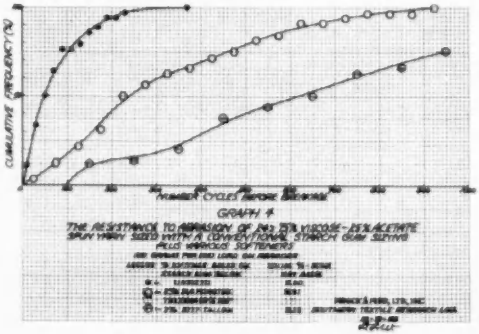
Legend: Black dot, 0.00% solids (bone dry basis); circle, 4.78% solids (bone dry basis); circle with cross, 7.43% solids (bone dry basis); circle with vertical line, 10.00% solids (bone dry basis); circle with horizontal line, 12.64% solids (bone dry basis).



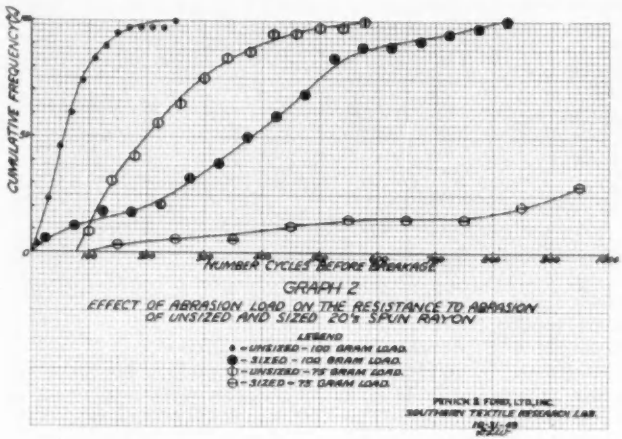
GRAPH 3
EFFECT OF SIZING SOLIDS ON THE RESISTANCE TO ABRASION OF 24s 75% VISCOSE-25% ACETATE SPUN YARNS

Graph 4. The Resistance to Abrasion of 24s 75% Viscose-25% Acetate Spun Yarn Sized with a Conventional Starch Gum Sizing Plus Various Softeners. 100 grams load per end on abrader.

Legend: % softener based on starch gum solids—black dot, unsized, 0.00% solids (bone dry basis); circle, 2% sulfonated tallow, 50% fat, 8.91% solids (bone dry basis); circle with horizontal line, 2% beef tallow, 8.28% solids (bone dry basis).



GRAPH 4
THE RESISTANCE TO ABRASION OF 24s 75% VISCOSE-25% ACETATE SPUN YARN SIZED WITH A CONVENTIONAL STARCH GUM SIZING PLUS VARIOUS SOFTENERS


CUMULATIVE FREQUENCY (%)
NUMBER CYCLES BEFORE BREAKAGE
GRAPH 2
EFFECT OF ABRASION LOAD ON THE RESISTANCE TO ABRASION OF UNSIZED AND SIZED 20's SPUN RAYON
LEGEND
PENICK & FORD, LTD., INC.
SOUTHBURY TEXTILE RESEARCH LAB.

Graph 1—Step 2).

The values of Step 2 are next counted cumulatively from left to right and recorded above each class interval. As an example, the value 3 in class 1 and the value 3 in class 2 to give a cumulative value of 6 for class 2. To the value 6 is added the value 2 in class 3 to give a cumulative value of 8 for class 3. This procedure is continued until all the cumulative values of Step 3 are obtained.

Next, the cumulative values are converted to percentage value by dividing each individual value by the total, which is 36 in this example (see Graph 1—Step 4).

Each value is next plotted on the graph as "Cumulative Frequency, %, Versus Number Cycles Before Breakage" directly above the mid-point of each class interval. The mid-point of the first class interval being 175, i.e., 150 + (200 — 150).

Graph 2. This graph illustrates very clearly the effect of abrasion load on resistance to abrasion of spun yarns. At 100 grams abrasion load the unsized yarn had all broken at 250 cycles while a 75 gram load allowed the unsized yarn to withstand 580 cycles. The % remaining at 500 cycles of the corresponding sized yarns were as follows: 100 gram load, 23%; 75 gram load, 87%.

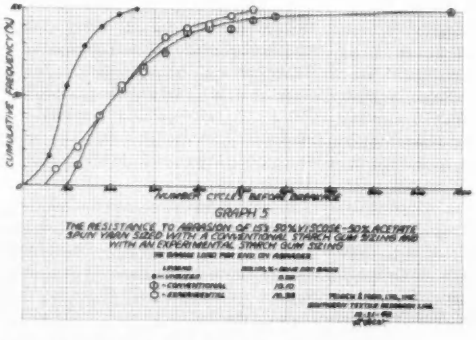
Each of these loads should be equally successful in grading spun yarns, but the 100 gram load is to be preferred because of the increased speed in obtaining the results. However, the ends must not be overloaded to the extent that the test can not detect small differences in sized yarns or to the extent that a large percentage of the unsized ends break between 0-20 cycles.

It was thought for some time that some percentage of the tensile strength of the unsized yarn could be used as the abrasion load. Although this procedure would probably give good results, it is believed that it is not the most expedient method. A trial and error method is recommended whereby 4 or 5 pairs of ends of unsized yarn are abraded with various loads and the load chosen which breaks all the ends at 200-300 cycles. This method makes test comparative.

Recording Test Performance. In operation, the abrader abrades the yarn until one of the strands breaks. As the yarn breaks an automatic shut-off motion stops the machine so that the number of strokes may be read from a counter. The number of cycles at breakage is recorded, the load removed from the pair of ends in question, and the machine started again. This procedure is continued until

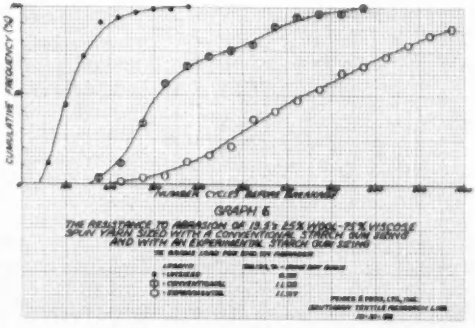
Graph 5. The Resistance to Abasion of 15s 50% Viscose-50% Acetate Spun Yarn Sized with a Conventional Starch Gum Sizing and with an Experimental Starch Gum Sizing. 75 grams load per end on abrader.

Legend: Black dot, unsized, 0.00% solids (bone dry basis); circle with vertical line, conventional, 10.10% solids (bone dry basis); circle, experimental, 10.24% solids (bone dry basis).



Graph 6. The Resistance to Abrasion of 13.5s 25% Wool-75% Viscose Spun Yarn Sized with a Conventional Starch Gum Sizing and with an Experimental Starch Gum Sizing. 75 grams load per end on abrader.

Legend: Black dot, unsized, 0.00% solids (bone dry basis); circle with vertical line, conventional, 11.00% solids (bone dry basis); circle, experimental, 11.07% solids (bone dry basis).



one end of each of the 12 pairs has broken.

It has been found necessary to run at least three sets of 12 samples each in order to obtain data which may be reproduced fairly accurately. A larger number of samples would be required to obtain exact duplications.

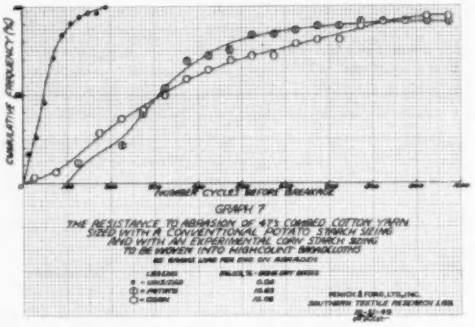
Keep Abrader Clean. Since most sized yarns contain, as a component of the sizing, some softener or lubricant, there is the possibility that some of these materials may be transferred from the yarns to the pins and the glass rod during the test. As a precautionary measure against accumulation of fats at these points it is recommended that the pins and the rod be wiped with a small piece of clean flannel saturated with carbon tetrachloride between test sets.

It is obvious that this method of testing is comparative and leans toward the grading of the weaker portion of a sample in question. However, this is believed to be preferable and to favor the deriving of data on a given sizing which will more truly reflect the quality of the sizing in improving the weaker ends.

Determination of Load on Strands. The load on each strand is determined by trial and error with the unsized yarn. A load is determined which will break the unsized yarn at 200-300 cycles. The same load is used in abrading corresponding sized yarns. The unsized and sized samples are compared by making plots of "Cumulative Frequency Versus Number Cycles Before Breakage" (see accompanying graphs).

This test has proved very effective in separating spun yarns sized with various starches with and without the addition of adjunct agents and softeners. The severity of the test may be increased or decreased to test a wide range of spun yarns by (1) changing the stroke of the movable plate, (2) increasing or decreasing the size of the glass rod, (3) lifting or lowering the glass rod, or (4) changing the load.

Some of the results achieved by using this method of testing are shown in the accompanying graphs.


CUMULATIVE FREQUENCY (%)
NUMBER CYCLES BEFORE BREAKAGE
GRAPH 7
THE RESISTANCE TO ABRASION OF 47's COMBED COTTON YARN SIZED WITH A CONVENTIONAL POTATO STARCH SIZING AND WITH AN EXPERIMENTAL CORN STARCH SIZING TO BE WOVEN INTO HIGHCOUNT BROADCLOTHS
85 GRAMS LOAD PER END ON ABRADER
LEGEND
BASED ON BONE DRY WEIGHTS
0.00
10.69
10.06
PERKINS & FORD, LITTLE INC.
SOUTHERN TEXTILE RESEARCH LABS.

Graph 7. The Resistance to Abrasion of 47s Combed Cotton Yarn Sized with a Conventional Potato Starch Sizing and with an Experimental Corn Starch Sizing to be Woven into Highcount Broadcloths. 85 grams load per end on abrader.

Legend: Black dot, unsized, 0.00% solids (bone dry basis); circle with vertical line, potato, 10.69% solids (bone dry basis); circle, corn, 10.06% solids (bone dry basis).

Mills Benefit Through N. C.-Va. Training Society

To provide for the needs of those engaged in industrial training and to help them become more efficient in the performance of their duties within their own organizations, the North Carolina-Virginia Society of Training Directors was organized approximately two years ago.

Training directors, personnel managers, vocational school supervisors, college professors and others interested in training comprise the membership of this organization which, incidentally, is not restricted geographically.

Meetings are held every other month. Topics for discussion at the meetings are based upon recommendations of the members. Plans for 1950 meetings call for programs with themes as follows: induction training, supervisory training, job training, clerical training, and apprenticeship training.

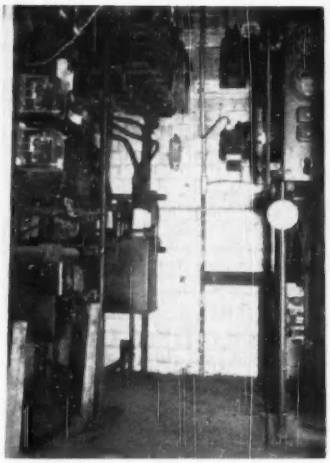
According to reports, programs are interesting and thought provoking. Panel discussions invoke participation by all members.

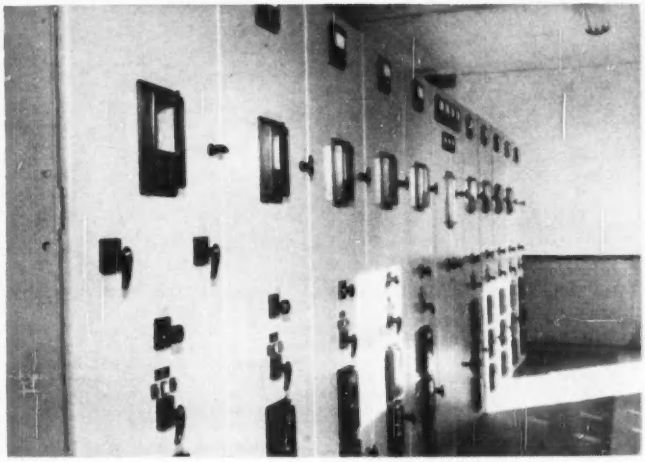
Typical was one program where a panel composed of L. A. Hill, training supervisor, Danville (Va.) Technical Institute, Ray Butler, manager of Spray (N. C.) Cotton Mills, and Wallace Bourne, training director at Cone Mills Corp., Greensboro, N. C., discussed with the group "What the Operating Man Expects from Training" and "What the Vocational School and Training Director Have to Offer."

At a more recent meeting, the training supervisor of the DuPont Co. nylon plant at Martinsville, Va., W. T. Mattox, reviewed for the group the training programs being carried out in his plant. A lively discussion followed.

In addition to the benefits to be derived from the bi-monthly meetings, members receive considerable helpful information from the parent organization, the American Society of Training Directors, through its publication, *The Journal of Industrial Training*, its programs exchange service, and its publication of training abstracts.

Those interested in the activities of the North Carolina-Virginia Society of Training Directors should communicate with J. P. Foster, president, 422 Patrick St., Leaksville, N. C.





BARE SWITCHGEAR in the old system (left) was a constant source of trouble and was dangerous to service personnel. The heat in this small room was extreme. In maintenance operations, this equipment was a definite safety hazard. Right, the new metal-clad switchboard has eleven sections, and ten of them are feeders. The eleventh section is the incoming bus which is located in the center section.

Huntsville's New Power System

Economies effected through new electrical distribution system:

- **Less production lost because of power failure**
- **Reduced maintenance**
- **Fewer safety hazards**
- **Reduction in power loss**
- **No penalty sustained for having low power factor**

EXCLUSIVE

By a Member of the Staff

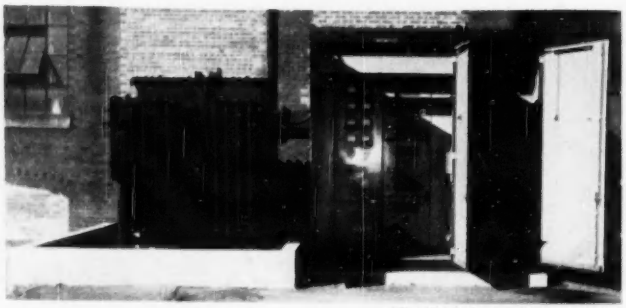
THE HUNTSVILLE Manufacturing Company, Huntsville, Ala., is now operating on a new electric power system. Electricity is fed to the plants through metal-clad switchgear which has improved safety conditions and eliminated overhead power lines. Westinghouse equipment was used extensively in the new installation.

In addition to being a safety hazard, the old power system operated on 2400 volts, with exposed overhead lines supplying current to 2400-volt motors which were used to operate group drives connected to various processing machinery. Every electrical storm affected the power system, disrupting power to all circuits in the plant. Power failures caused much confusion, trouble, and delay in production throughout the plant.

New electrical facilities utilize 44,000 volts from the city power lines and reduce it to 2400 volts at a sub-station, using a bank of three transformers. The power is brought through underground conduits to 2000 kva transformers which in turn furnish power through 600-volt circuit breakers to the mill.

In the new system, all conductors serve the plant through underground coreducts. Each phase wire is enclosed in a single duct. Formerly there were three cables in each conduit, and repairs were time-consuming because the maintenance man had to determine which cable was causing the trouble. In the new system a ground detector indicates (by signal light) which cable is causing the trouble, and since there is only one cable in each conduit, this phase of maintenance is simplified.

In the main power distribution center there is an instrument



"Textile Industries" staff photo

POWER CENTER with doors open showing the operating panels for the six 600-volt feeders. The transformer at left is surrounded by a concrete fender to prevent vehicles from colliding with it and also to prevent the spread of transformer oil, should a leak develop through accident.

panel having a main bus voltmeter. The forementioned ground detector equipment is located here. On each feeder unit there is an ammeter for reading the load on that feeder.

The number of main feeders out of the metal-clad switchgear and the number of 600-volt secondary feeders out of the power centers also help to simplify finding any source of trouble.

All parts of the switchgear are enclosed. The switchgear has eleven sections, and ten of them are feeders. The eleventh section is the incoming bus which is located in the center of the assembly. The incoming bus is insulated, metal enclosed, and has a capacity of 3000 amps. Type 50DH50 horizontal drawout air circuit breakers are used for the feeder circuits.

Production Loss. With the old power system there were frequent power failures. Any failure caused by a short circuit interrupted operations in the entire mill. These frequent failures resulted in a loss of approximately 3 production hours per month. The new power system is a great improvement in that less than 5% of the mill is affected by any one electrical failure, enabling the plant to operate more efficiently. The new system was put into operation in July, and since that time only one power interruption has occurred. In this instance a small portion of the plant was inoperative for about 10 minutes.

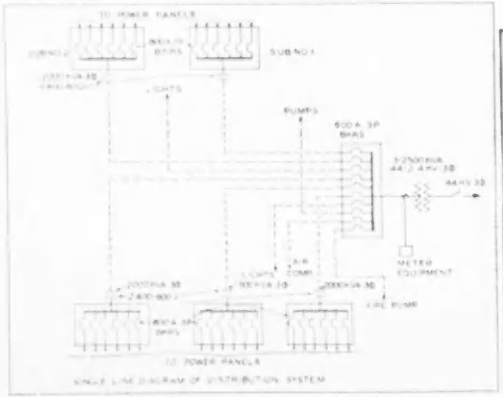
Improved Power Factor. When the old system was in use, the power factor at peak was below 80%. The mill is now operating with 1200 kva capacitors in the electrical system, and the power factor is now approximately 88% at peak. Formerly the kw demand was 5300. The power loss was reduced by installing the new equipment, and the present kw demand is 5100.

The utility contract with the company contains a clause which provides a penalty for power factor below 85%. By using capacitators and correcting the power factor from below 80% to 85%, the mill has by-passed a penalty which would cost approximately $600 per month. The capacitors are expected to pay for themselves in approximately a year.

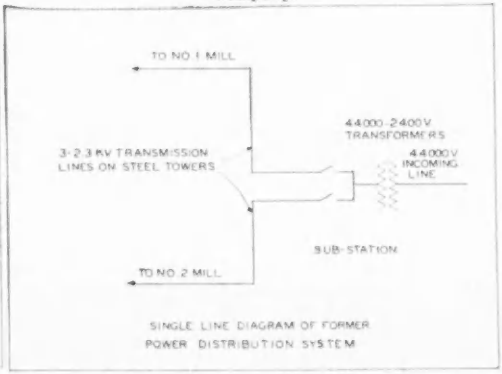
Each 2400-volt main power feeder is underground. There are five sets of main power feeders, and the cable is 750 mcm Okolite Okoprene in asbestos coreduct. The cables terminate at power centers where the potential is reduced to 600 volts. Each power center has six 600-volt feeders, and each feeder runs to a panelboard which has four sub-feeder breakers. An average of ten 15 hp spinning frame motors are fed from each of the forementioned sub-feeder breakers.

Individual Motor Drives. Individual drives for production machinery were not practical under the old system because the potential was maintained at 2400 volts. Now that individual motor drives are employed, results have

Single line diagram of new power system.

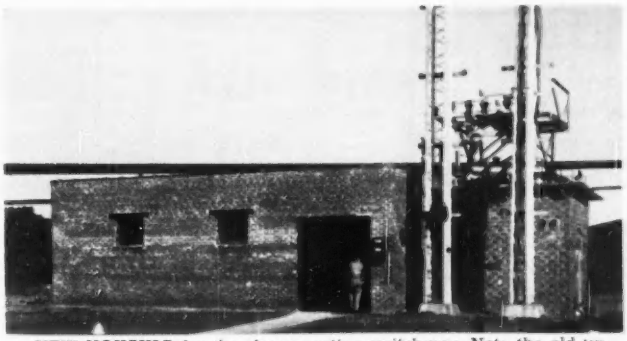


Single line diagram of power distribution system formerly employed at Huntsville Manufacturing Company.


TO NO 1 MILL
44000-2400 V TRANSFORMERS
3-2.3 KV TRANSMISSION LINES ON STEEL TOWERS
44000 V INCOMING LINE
SUB-STATION
TO NO 2 MILL
SINGLE LINE DIAGRAM OF FORMER POWER DISTRIBUTION SYSTEM

shown a definite improvement. Reducing the voltage to 600 permitted the use of individual drives, and they have paid for themselves in savings in maintenance, in addition to reducing the safety hazard of the old style drive.

At each power distribution center, the 2400-volt incoming line is terminated in a disconnecting switch. The maintenance operative can ground the sub-feeder after disconnecting it at the power center. This feature makes it safe in the event the power center has to be checked, repaired, or serviced.



NEW HOUSING for the eleven-section switchgear. Note the old upright supports for overhead power lines which have been eliminated. The small brick structure beside the new one contains the old switchgear that gave much trouble and was a hazard to enter, especially during electrical storms.

Problems in Textile Flammability

By **GEORGE S. BUCK, JR.**
Technical Service Director
National Cotton Council

EXCLUSIVE

IN THE testing of rate of burning index for many fabrics, deviations among testing instruments, even when used on the same material, are so sizeable as to make any one set of results unreliable. In fact, there is no flammability tester available today which has yielded consistent rates of burning on a range of fabrics tested in a number of laboratories.

Many instruments are being used and many different results are being obtained. Authorities are at this time "interpreting" these results with the end view of making fire control regulations which are based on the results.

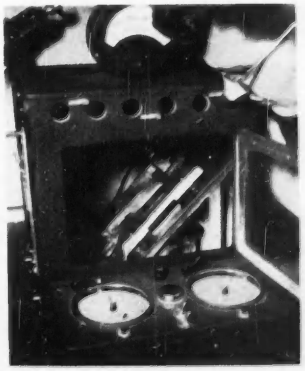
The existing confusion is not to the public good. It has dangerous implications for the textile manufacturer. The accompanying article briefly outlines the situation. The graphs which show interlaboratory tests speak for themselves.—The Author.

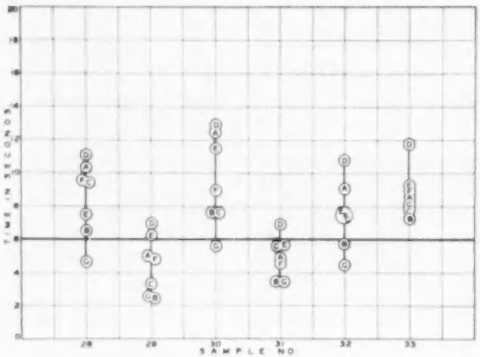
PUBLIC demand for greater fire-safety in many applications of textiles poses several rather knotty problems which the textile industry is endeavoring to unsnarl. These include the securing of better and cheaper flame resistant finishes, the need for clearer standards and definitions, and the necessity for improved merchandising methods for flame resistant fabrics.

But perhaps the major problems facing the industry and the public alike are the determination of the degree of fabric combustibility or flammability which shall be presumed hazardous, and the perfection of a method for measuring fabric flammability.

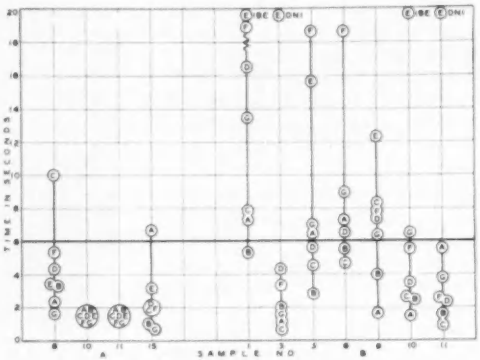
In applications where complete flame resistance is required, the measurement of that property is a relatively simple matter. A match or candle shows whether or not a fabric burns; if more accurate testing is needed for measurement not only of flame resistance but of char length and glow time, sev-

THIS 45° TESTER, intended primarily for measuring the flammability of coated fabrics and plastic films, is reported to have advantages for testing regular fabrics. Novel features include microswitches and automatic recording of both ignition time and burning rate; also a pyrometer for determining flame intensity.





IN A SEVEN-LABORATORY correlation test program using the AATCC 45° inclined flammability tester, the results shown here were obtained on six chenille samples. Each lettered circle represents the average burning rate of 10 strips as recorded in a single laboratory. The heavy line at six seconds represents the arbitrary division between "safe" and "hazardous" fabrics.



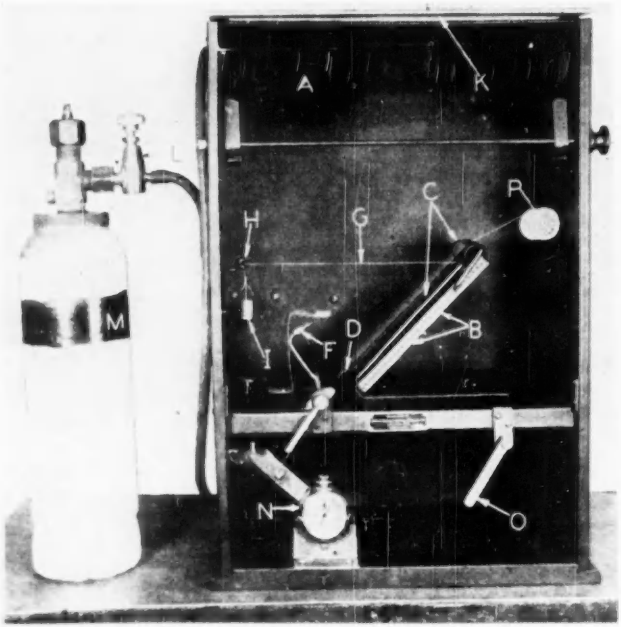
NAPPED AND BRUSHED FABRICS, like chenilles, represent textile fabrics on which flammability tests frequently fail to give reproducible results. These results from two interlaboratory programs using the AATCC 45° instrument are not peculiar to that instrument, but have been observed with every rate-of-burning device thus far checked in several laboratories.

eral rather well standardized test methods are available.

However, the determination of how fast and how intensely a fabric burns, together with its ease of ignition, is quite another matter. Furthermore, even when these measurements are perfected, there will remain the problem of relating burning characteristics to the potential fire hazard which can result from the various applications of the textile fabric.

While more than two dozen test methods have been developed for measuring textile flame resistance, each one measures essentially the same thing; that is, whether or not the fabric burns. Therefore, in a broad sense, agreement among all of these methods is good. On the other hand, tests thus far conducted with methods for measuring flammability, or rate-of-burning, show that the different instruments not only fail to evaluate this characteristic the same way, but frequently fail to show correlation when several of one type measure the flammability of a single fabric.

The problem of measuring flammability is much more difficult than that of measuring flame resistance. Rate-of-burning is extremely sensitive to the preparation and handling of the fabric, to ambient conditions of heat and humidity, to fabric moisture content, and to the position in which the fabric is burned. Nevertheless, while many aspects of this subject have not yet been satisfactorily worked out and may require considerable additional study, much can be learned about the manner in which fabrics burn by following the several flammability studies now under way in the AATCC laboratories at Lowell Textile Institute under supervision of the AATCC Committee on Flammability of Consumer Fabrics.



AATCC FLAMMABILITY TESTER. It is the most widely used and tested of all rate-of-burning methods. A 6" x 2" sample of fabric clamped in rack B is ignited by one-second exposure to the microjet F when the lever O is tripped. Stopwatch N is automatically started and stops when the flame burns the string G, dropping the weight H.

The Peralta Machine

a contribution to the manufacture of quality wool yarns

By W. J. CROFTS

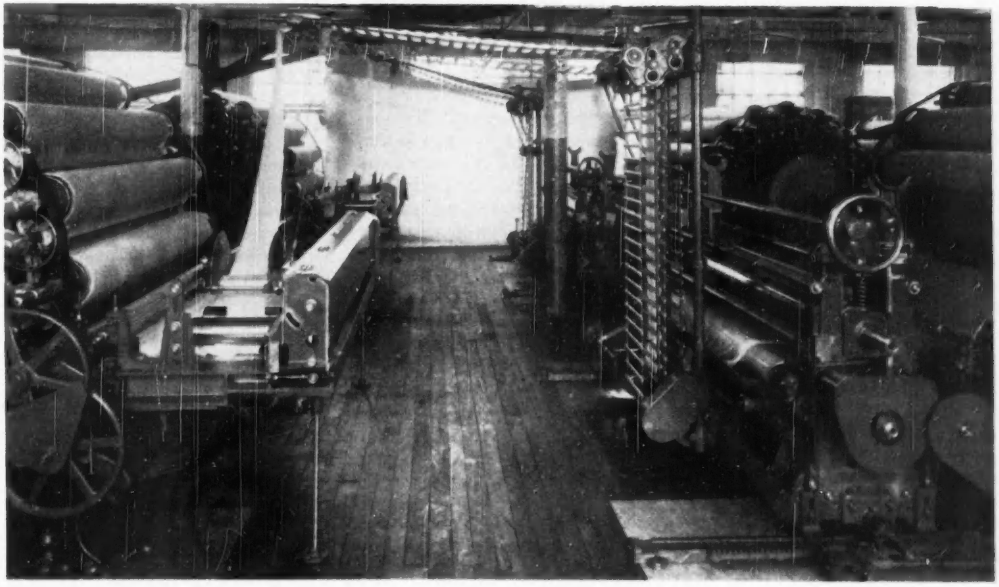
THE WOOL fiber has an affinity greater than any other textile fiber for catching and holding all sorts of burrs, seeds, chaff, and foreign substances. Ever since wool was first used in making yarns, the woolen industry has been plagued by woody vegetable matter tenaciously embedded in the fleece.

The removal of this objectionable trash and thoroughly cleaning the wool has appreciably added to the costs of manufacturing. For many years progressive mills have used expensive equipment to reduce the objectionable foreign matter to dust. Peralta crush rolls now do the job with little expense.

Peralta machines constitute one of the most impressive improvements ever made in woolen yarn manufacturing. Their operation is very simple in principle. Designed to crush all foreign matter in wool stocks, the heart of the machine is the two 12" diameter iron rolls, chilled to extreme hardness, machined and polished to a mirror-like finish, and tooled to an accuracy of .002 inches. The rolls are radially crowned to .002 inches. This slight crown compensates for the slight spring of rolls at centers when under heavy pressure.

Roll Pressures. The pressure indicator at the zero mark indicates a pressure of one ton or the weight of the 12" x 60" top roll. Hand wheels are provided to permit increased pressures up to 10,000 pounds. Some mills use this high pressure, claiming to get a cleaner yarn, but such pressures put a severe strain on the roll bearings and drive gears. The most commonly used pressure for satisfactory results on average wools is from 3 to 3½ tons or with the indicator set at the 2 or 2½ mark. Wool fibers are not damaged when subjected to the

Peralta machines (shown at right) were incorporated into these two sets of wool cards to improve quality and increase production. *Duesberg-Bossan of America, Inc.*



crush rolls, and there is an appreciable gain in yarn strength which is more pronounced on fine yarns. When crush rolls are used, there is less damage to the fine card wire of the finisher card, thereby permitting better carding and prolonged life of the clothing.

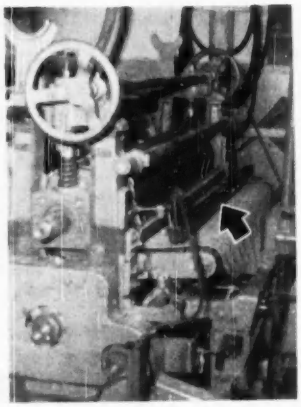
Location of Peraltas. The location of the crush rolls is a matter of choice; however they are usually installed at the middle alley between the doffer and broad band feed. On a four cylinder card, the rolls can be placed at the delivery point of the first doffer or between this roll and the second cylinder of the double first breaker. This location allows for three cylinder cardings after all of the vegetable matter has been crushed; therefore more of the chaff is removed, and a cleaner yarn is produced.

Some space can be saved by taking away the delivery apron of the Peralta and substituting a small carrier roll to deliver web from crush rolls to the second cylinder.

Maintenance. When adjusted and drafted correctly, the Peralta machine gives little trouble, and a reasonable amount of attention maintains trouble-free performance. All bearings need thorough greasing at monthly intervals on a three-shift basis. The cleaning felts should be cleaned with cleaning fluid or kerosene oil when they become gummy, and the felts should be removed and turned over about every six months.

Static Problem. Static electricity is generated from friction of the wool cleaning felts against the rolls and can be very troublesome. There are several static neutralizers that may effectively control this condition. The application of more emulsion to the blend may alleviate the condition in some instances. The use of humidifiers and increasing the humidity is beneficial, and if cold drafts of air along the floor are stopped, humidity will control static in the woolen card room.

Worn Rolls. Although the metal is hard, the surface of the crush rolls will wear, and a slightly worn roll does not perform its function effectively. The wide diversity in character of the many fibers used in making yarn on the woolen system makes it impossible to set an arbitrary time limit on the useful service of the rolls. One mill may operate 144 hours per week on fine yarns entirely for three or four years without an appreciable wear on the rolls or increased breakage in spinning. Another mill using coarse, rough wools may experience serious trouble within a shorter operating time.



Static neutralizer installed on Peralta delivery.

Some wools contain fine sand that clings to the fiber even after scouring, and the abrasive action of sand is well known. Undoubtedly a rich, oily emulsion used on the wool blends will materially prolong the useful service of the rolls. The direct application each shift of rub apron or wool oil may counteract some of the abrasive action of the stock. An oil that will wash or scour out of the fabric easily should be used to avoid oil stains in the finished cloth.

The ends of the crush rolls do not wear appreciably because the radial crown at the center of the rolls prevents the ends of the rolls from coming in contact. Most wear occurs near the center of the rolls. A narrow strip of thin paper or steel can be used to detect grooves worn on the surface, but a careful check and inspection of the web for uncrushed bits of trash will indicate faulty performance of the rolls. A careful inspection of the yarn for small pieces of vegetable matter may indicate the source of trouble. The crush rolls are precision ground and polished, consequently it is necessary to use a new pair of rolls while the original pair is being re-conditioned. Re-conditioning the rolls is a job which requires the highest mechanical skill and precision tools not usually found in the average mill machine shop.

Kinds of Burrs. Wools used in this country come from many parts of the world, and the imported fibers contain objectionable woody ingredients which may be characteristic of the country where the sheep are raised. The finer wools are more tenacious and naturally collect and retain more trash and foreign matter.

There are many different kinds of burrs, and a few of the most troublesome are found in our domestic wools. These are perhaps the worst offenders in that domestic wool contains a larger percentage of trash than imported fleeces. In our Southwest there are Mestiga burrs covered with very short spines which are especially troublesome on fine yarns. The sand burr is a small round burr completely covered with hard tough spines. These burrs break into many pieces in the carding process, and the tough spines are scattered throughout the roving, causing serious breakage in spinning.

In the eastern states, wools from small flocks of sheep raised on small farms contain soft burdocks which break into numerous shives large enough to cause slips or breaks during the drafting process on the mule or spinning frame. The large hard burrs are less objectionable than the small spiral or the rough soft burr because burr picking completely eliminates all solid burrs together with a small percentage of chaff.

High speeds and processing the wools dry (to prevent winding around burr rolls) inflicts con-

siderable damage to the fibers. Burr picking has never been a wholly satisfactory process for thoroughly cleaning wool and eliminating the more troublesome small chaff. Raw stock carbonizing eliminates the trash, but this process has an adverse effect on wool fibers in addition to the extra cost.

Burrs in Carding. The presence of small burrs and chaff in wools has always been a handicap in carding woolen yarns. In the carding process, this trash becomes embedded in the card wire, and the tips protrude above the points of the wire, making a rough working surface which causes endless trouble on medium and fine yarns. The projecting tips on finisher card cylinder and tape doffer make a slight drag on the web at the point of release from the doffer comb.

Oftentimes the web is dragged or scratched by the cylinder when building a web on the doffer, especially if the wire surface is rough with hard, woody material. The same trouble is caused by the small stripper rolls under similar conditions. Burrs make thin places in the roving ends, and frequent stripping or cleaning is necessary. This means more lost time and production.

Immediate Results. The first installation of Peralta crush rolls in a mill produces immediate and impressive results. One mill was making 3-run yarns from a blend of 50% 56-60s wool and 50% short fine worsted noils. Both wool and noils contained considerable vegetable matter. The carder was making the roving lighter than standard weight because the spinner was unable to make the standard draft without excessive breakage and consequent loss in production. End breakage was too high, and the yarn strength was less than the minimum standard.

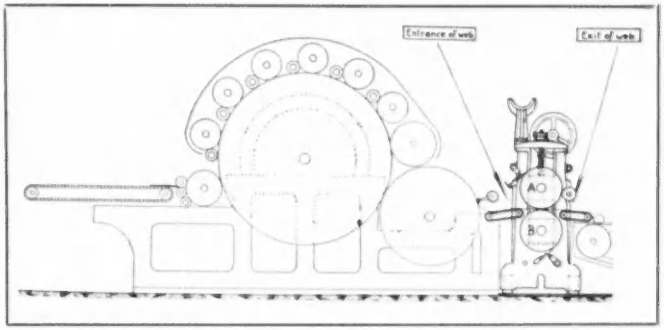
The mill installed Peralta crush rolls, and breakage on the mules immediately dropped 90%. Production increased approximately 25%, the yarn strength showed improvement, and the carder was allowed to make the roving 10% heavier. Increased roving weight permitted a 10% increase in card production and a smoother, stronger roving. Reports from the weave room showed a remarkable improvement in both warp and filling breakage with a corresponding increase in production.

Small pieces of hard vegetable matter in the roving ends prevent a complete binding or bonding of the fibers and causes either slips or a complete break in the yarn during the drafting process. Some of these slips pass on to the bobbin in the form of thin places and are the cause of most of the yarn breakage in weaving. When testing the yarn for breaking strength, the presence of woody material in only a few strands of yarn lowers the test; whereas the Peralta rolls completely pulverized all of the trash, thereby producing a stronger more uniform yarn.

Impurities in Knitting Yarns. Crushing and pulverizing all of the impurities in the various wools and stocks used in the making of woolen knitting yarns is of special benefit in knitting woolen fabrics and has given added impetus to the use of ring spinning frames. When knitting woolen fabrics, any shives or hard pieces of burrs projecting from the yarn catch on the eye of the needle and snap off the thread, causing breaks or large holes in the cloth. This difficulty increases mending costs, not to mention lost production.

Production Hindered. Broken pieces of burrs can greatly curtail production on the spinning frame. In one instance a mill bought a large amount of fine wool of excellent quality, and the stock appeared clean, but scattered throughout the wool were many sand burrs which could not be removed by burr picking. This wool constituted 20% of the total stock mixed in a blend.

In the carding operation, the burrs were broken up into numerous small pieces, and the hard spines coming in contact with the rub aprons caused some doubling and breaking of the roving ends. In the ring spinning operation, breakage increased to such an extent that production dropped 50% below normal. When the 20% of burry wool was omitted from the blend, production returned to the normal standard. If Peralta crush rolls had been employed at the start, the fine wool could have been used without any loss in production and at a saving on the primary cost. Also yarn strength could have been improved.



Showing Peralta machine applied to the first breaker card. Crush rolls are shown at right and marked A and B.

Employee Morale. Aside from other benefits that accrue from the use of Peralta crush rolls, the matter of employee morale should not be overlooked. Pleasant working conditions undoubtedly have a profound effect on morale, but high operating efficiency with minimum breakage of yarns gives a lift to the spirits of all operatives; that is an important factor to successful manufacturing.

A New Approach to

Effective Lint Collection

By S. H. FAIN
Dust Control Division
American Air Filter Co., Inc.

Efficient air cleaner eliminates lint and dust nuisance arising from picker exhaust, permits recirculation of conditioned air and saves on fuel consumption

WITH THE public becoming more insistent in their demands for clean air in industrial centers, cotton mill operators must face the problem of controlling lint and dust more carefully. Even when air from lint and dust producing processes is exhausted through dust basements or cyclones, enough fine particles still escape to cause a nuisance to the mill and surrounding neighborhood.

Of even greater immediate importance to the mill operator is the economic consideration where heated, humidified, or cooled air is lost to the atmosphere and replaced with untreated outside air. In the heating season this is of considerable importance because of its influence on fuel consumption. With the present trend toward humidity control or air conditioning in picking and opening rooms, it can become a year-round expense. The obvious answer to the problem is recirculation, but this is impossible with dust basements and cyclones because of the amount of lint and dust particles that remain suspended in the air stream. An efficient air cleaner, however, solves both problems. It eliminates the lint and dust nuisance and at the same time makes the air re-usable.

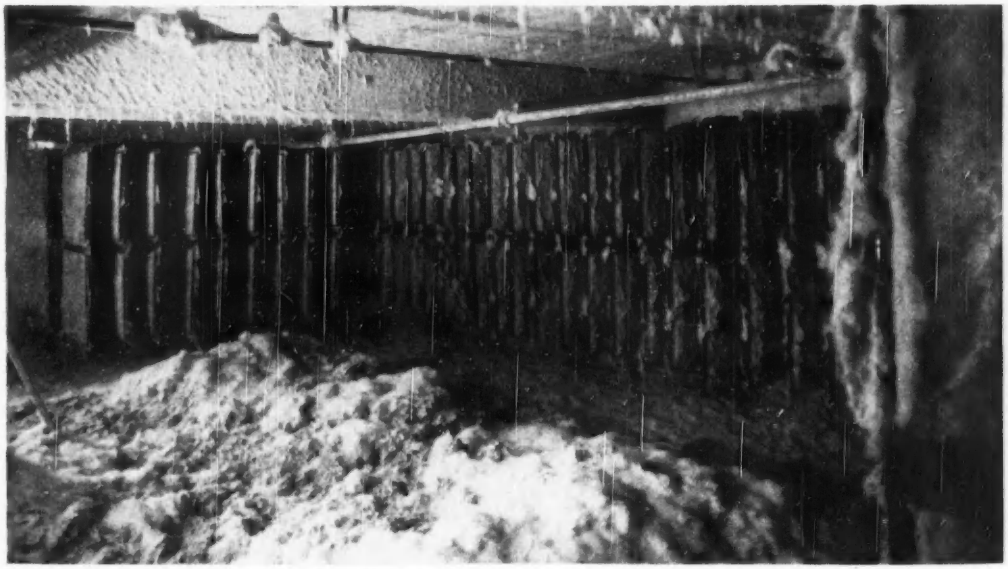
Mill Installation. Erwin Cotton Mills, Durham, N. C., has accomplished this dual objective by exhausting the air from the pickers at their No. 1 Mill through an Airmat Lint Arrester installed in the dust basement. Thirty-one 6A Airmat units with a capacity of 28,000 cfm form a partition in the air stream between the dirty-air inlets and air shaft. Since the width of the basement is not sufficient to accommodate the number in one line, the units are assembled in the form of a **U** to give the required filtering area.

After passing through the arrester, the air enters the shaft which has been converted into a plenum chamber with an atmospheric relief at the top. From here it returns to the workroom through openings in the shaft wall that contain booster propeller-type fans operating against 1½" static pressure. These fans compensate for the operating resistance of the lint arrester (from ¾" to 1½" WG) and maintain a balanced air flow without modification of existing exhaust equipment. Variation in resistance resulting from lint accumulation on the arrester is not sufficient to cause measurable differences in air volumes delivered to the basement by the picker fans.

Assembly of two lint arrester units showing wide pocket spacing and absence of ledges which might allow lint build-up.

Fire Protection. Recirculation does make certain precautions necessary to prevent smoke flooding the workroom during flash fires. At this installation a heat-sensitive cable is utilized to open by-pass doors in the arrester so as to vent the gas and smoke to the stack. The atmospheric relief atop the stack is weighed and anchored with a cable containing a fusible link which releases to permit the smoke to escape. In addition, the heat-sensitive cable actuates fog nozzles in the ceiling of the dust basement and stops the booster fans. Further fire protection is furnished by 150 F sprinkler heads.

A recent fire proved the effectiveness of the system. At the instant the operators in the picker room smelled the first smoke, the fog nozzles opened, the air by-pass dampers through the arresters and the atmospheric relief atop the stack opened, the return air fan motors switched off, and the fire-alarm bell rang. The heat-sensitive cable responded so



Dust basement at the Erwin Cotton Mills, Durham, N. C., showing the lint arrester which cleans the air exhausted from picker room in the No. 1 Mill.

quickly that the fog nozzles extinguished the fire before any of the 150 F temperature heads opened.

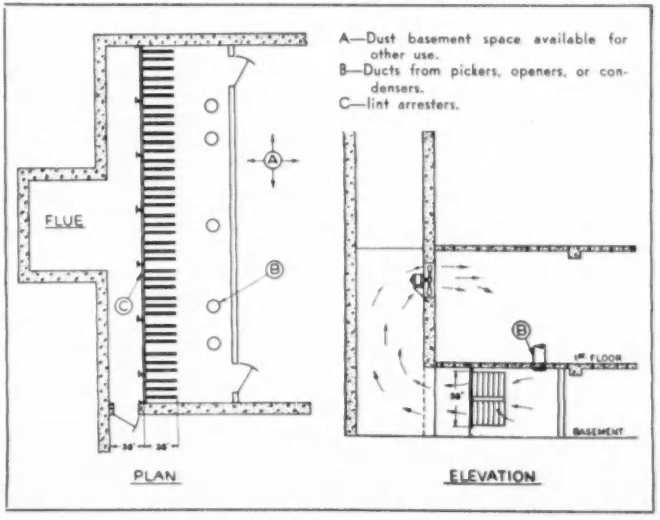
With this arrangement to prevent smoke damage, the lint arrester serves as a safe and effective means of stopping the lint nuisance and at the same time permits the return of heated air formerly lost through the stack. This has appreciably reduced the amount of steam required to maintain desirable temperatures in the picker room where large volumes of outside air had formerly overtaxed the heating system. Recirculation of air has made it practical to install humidity control in the picker room, and such controls have been installed.

A second installation of 48 No. 6A units to clean 43,000 cfm for the picking room in Erwin's No. 4 Mill is now complete.

The Airmat lint arrester manufactured by the American Air Filter Co., Louisville, Ky., is an adaptation of their dust arrester used for the collection of linty and fibrous dusts. It was developed during the war by the company's affiliate in Sweden, where the main problem was to conserve heat in the coal-starved textile mills by recirculating the air. These installations proved so successful that the equipment was introduced in this country.

Filter Operation. It is built of standardized units containing six pockets that hold two sheets of either Airmat paper or Type G filtering media. Airmat Type KX is a laminated cellulose material made from spruce wood fibers and has a porous, felt-like texture that gives it the desirable characteristics of cloth, but unlike cloth, it has a smooth napless surface which reduces lint adherence. The lint that builds up on the paper

Plan and elevation sketches of typical installation of lint arrester in low headroom dust basement in cotton mill.



has a tendency to fall free from the arrester from its own weight. Even with Type G media, a smooth bonded glass fiber mat that has the same high dust separation efficiency, removal of the collected matter requires only a light brushing with a broom. Both types of media are used at Erwin Mills. The Type G is placed on the clean-air side for fire protection and covered with Airmat KX to give the self-stripping action.

Methods of lint removal from the dust basement remain the same in that the Airmat arrester introduces no complication to the dust disposal problem. Many mills with similar installations have converted considerable portions of their dust basement to more useful purposes.

Although the original purpose of this installation was to abate a public and plant nuisance, the by-products are of considerable importance. Recirculating the air lowers heating costs, eliminates chilly drafts in the workroom, and makes humidity control easier.

The Airmat lint arrester is equally effective against dust, which is becoming a greater problem with machine-harvested cotton containing a high percentage of dust and trash. In addition, modern high speed machinery for processing cotton is greatly increasing the amount of free lint in the air. This necessitates more efficient lint and dust control which is an investment rather than an expense.

Research Problems Outlined by Wool Bureau

Recommendations for research designed to meeting existing technical and production problems in the woolen and worsted industry have been compiled by Giles E. Hopkins, technical director of The Wool Bureau, Inc. His findings were released by the Bureau in a booklet entitled "Suggested Research and Development Studies for the Woolen and Worsted Industry."

The program is based on an eight-month survey of research centers and wool textile mills supporting their own research departments in this country. It contains recommendations for research considered by Mr. Hopkins to be essential to maintaining the leadership of the American wool textile industry.

Among the specific problems analyzed and recommended for research by Mr. Hopkins are: For mill processing: wool scouring and wool grease recovery; chemical modification to give whiter wools; lubrication of wool fiber for processing; cause of difference between skein and top dyed yarns; device to tie in warp beams; and carbonization.

In the field of laboratory tests and standards he named: laboratory, or miniature, reproductions of mill processing equipment; simplified tests for wool fiber characteristics; wool dermatitis and allergies; absorption of gases by wool; electrostatics; and effect of heat, moisture and time on fiber quality.

Product development research suggested covered scientific design of wool fabrics and protective clothing, while in the field of production and marketing the recommendation named was elimination of black fibers from white wool and improved containers for ship- and improved containers for wool.

"Lifo" Inventory Pricing Method Used by Number of Mills

Nine out of 13 major textile companies used the "last-in, first-out" (Lifo) method of inventory pricing last year, according to "Accounting Techniques Used in Published Corporate Annual Reports," a study published by the American Institute of Accountants.

The Lifo method is based on the assumption that the goods sold will be at the price of the most recent purchases.

The nine companies who used all or a part of the Lifo method were American Viscose Corp., Belding Heminway Co., Bigelow-Sanford Carpet Co., Inc., Mohawk Carpet Mills, Inc., Pacific Mills, United Merchants & Manufacturers, Inc., Dwight Mfg. Co., Cannon Mills, and Burlington Mills Corporation.

While Lifo has been used in America for about ten years, it is not new in principle and can be traced to British metal trades in the nineteenth century. The prime purpose of the Lifo inventory method is to bring about, in the determination of profits in the financial accounts, a greater correlation between sales prices and costs.

The method reverses the normal procedure of costing sales at earliest or average prices and applies latest costs against current sales. Lifo is generally regarded as a means of bringing costs into the operating statement more nearly on the price level as sales.

Lifo adherents consider the method to be a fundamental protection against the dissipation of capital. They also contend that Lifo shows a stricter operating profit or loss.

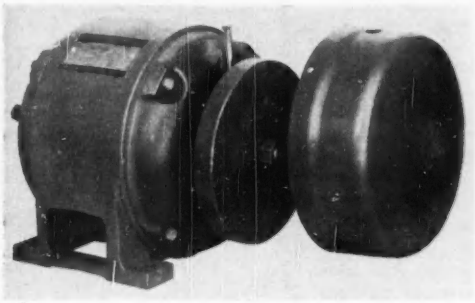


Fig. 1a. Flywheel loom motor with cover removed.

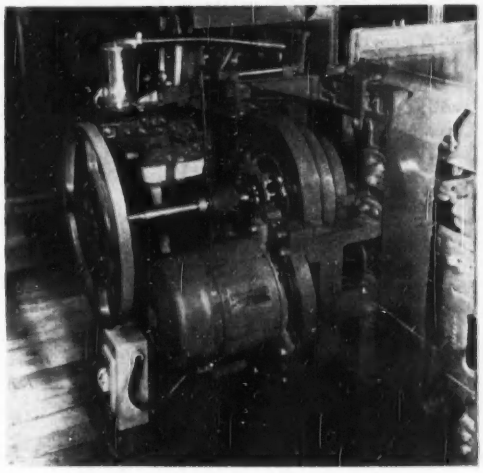


Fig. 1b. Flywheel loom motor mounted on loom.

Flywheel on Loom Motor Permits High Speeds, Low Power Cost

By R. J. DEMARTINI
Industrial Engineering Divisions
General Electric Company
Schenectady, N. Y.

EXCLUSIVE

LOOM BUILDERS and mill engineers are proving to their satisfaction the merits of the flywheel principle where loom motors are concerned. The design of a new flywheel loom motor, (Figs. 1a and 1b) based on the results of an exhaustive testing program, evolved from the search for a drive that would operate the loom at maximum efficiency and would impart to it the smoothest "feel." Mill experience with the flywheel-equipped motor is demonstrating that looms may be operated at higher speeds and at lower power cost.

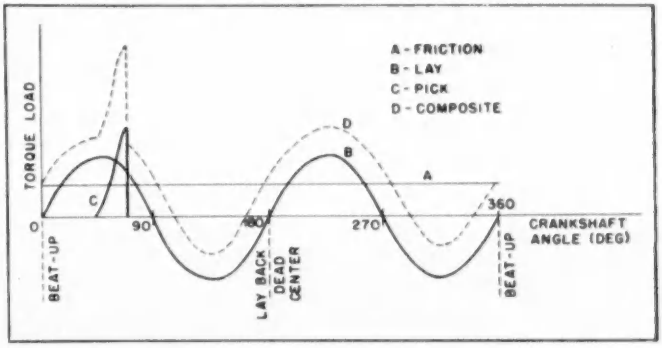
Factors Affecting Loom Loads. The reasoning from which the flywheel motor design has grown is as follows:

Consider how the loom load looks to a drive. In Fig. 2 is shown the manner in which the components of the loom play their respective roles over the weaving cycle. First there is the friction factor, approximately constant, represented by the straight **Line A.** By friction here is meant the losses in bearings and gears, in the boxes and at the reed moving over the warp.

The lay motion is illustrated by the uniformly varying **Curve B,** a sine wave. As the lay is accelerated from front dead center it demands energy from the drive in increasing measure. As it approaches the half-way mark in its rearward travel, it calls for less and less power, and then during the period in which it concludes its motion toward the harnesses, it actually attempts to turn over the drive.

Arriving at the end of its backward travel, it then must be re-accelerated forward. Thus, because of the pulsating characteris-

Fig. 2. Analysis of nature of components comprising loom load.



tic of its movement, the lay asks the drive alternately to supply it with energy and then absorb energy from it.

The drive must contend also with the intermittent disturbance created by the picking motion. The sharp-peak illustrated by **Curve C** and occurring over just ⅛ of the weaving cycle represents the manner in which the picking motion suddenly drains power from the drive system.

Other motions, such as in the dobby and harness system, the take-up and special auxiliary mechanisms, while significant load components, are sufficiently constant to be included as part of the friction factor.

If we graphically add up the contributions of the individual load elements there emerges the summation **Curve D**, and this depicts the nature of the net load and drive seen at each instant over the duty cycle. The influence of each motion is clearly apparent here.

Flywheel Meets Instantaneous Power Demands. It is to assist the motor in meeting those instantaneous power demands of the loom that inclusion of a flywheel in the drive system is desirable. During those periods when the loom asks little of the drive, the motor pours energy into the flywheel, there to store it until a load peak occurs. When the peak appears, that stored energy is available to supplement the efforts of the motor—thus easing the burden on the motor. To appreciate the part the flywheel plays, compare what happens within the motor when the amount of inertia, or flywheel, in the drive system is negligible with what occurs when a large flywheel is included.

In the theoretical case of a loom and drive whose combined inertia is very small; as each load peak in the weaving cycle is encountered, all of the energy required to pull the loom through it must come from the motor and eventually from the power line. At intervals, then, the motor windings must carry current surges of considerable magnitude. At times the load on it will be negligible and it will draw little current. At still other instants the loom will attempt to drive it overspeed, causing current to flow in the reverse direction, and the motor will temporarily become a generator.

For such a drive to turn over the loom without excessive speed variation, or galloping, its design would have to contain provision for very high breakdown torque. In Fig. 3a (top chart) is shown a typical speed torque curve for a motor which satisfies this requirement. The darkened portion is that over which the motor would oscillate as it drives its load through the weaving cycle.

The current carried by its windings would vary over the range shown on the plot of current, Fig. 3b (center chart), drawn at corresponding points of the curve in Fig. 3a. The abnormally high currents result in high heating losses and hence would require that a large frame size be employed to allow dissipation of these losses. However cleverly the designer may apply his science, he is limited by basic considerations in the extent to which he can improve motor efficiency to minimize such power losses.

Fig. 3c (lower chart) is a plot of motor losses over the operating range. A theoretical motor such as described previously would operate much of the time at the top end of the curve and be expected to average low in efficiency.

Greater Inertia in Loom Motors. Recognizing these fundamental considerations, designers of loom motors have long made provision for greater inertia in their motors than is customarily found in those of general purpose machines. In so doing they add to the system a means for storing energy, energy that is available to do mechanical work during the picking and during the lay load pulsations. When the lay decelerates and pumps energy back through shafts and gearing to the motor rotor, its speed increases and it acquires a store of energy. This is then released when the load peaks occur.

In order to accomplish the energy exchange at the successive points in the duty cycle, there must be some speed change, the magnitude of the change to be a

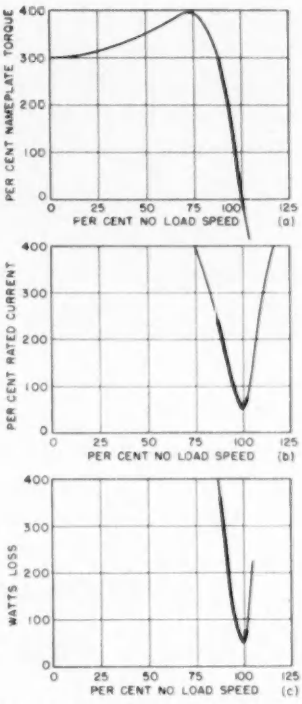


Fig. 3. Operating characteristics of low-inertia loom drive. Darkened portion of curves is that over which the motor fluctuates when driving the loom load.

function of the amount of inertia present. Thus, the loom motor speed-torque curve is softer, has more droop, than that of a general purpose machine. Its breakdown torque need not be so great as that of the theoretical "no inertia" motor discussed previously.

Compare the Fig. 3 curves with those in Fig. 4, which apply to the same motor with some flywheel effect added and driving the same loom. Speed variation is less, root-mean square current is less, and efficiency is greater. Because of the presence of inertia, "flywheel effect," the loom motor may now be built in a smaller frame, and its initial cost would be less than for the low-inertia machine. The loom will operate more smoothly, and the power bill will be smaller.

How Big Flywheel? But has the motor designer gone far enough in building flywheel effect into

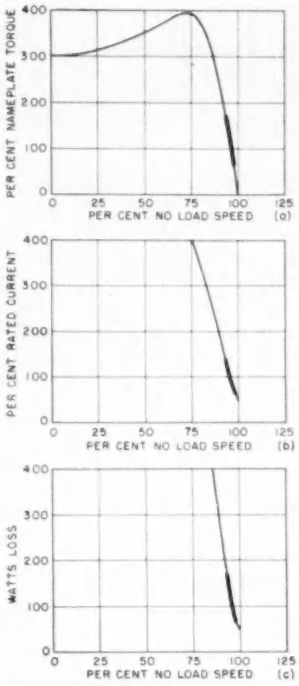


Fig. 4. Operating characteristics of high-inertia loom drive. Motor is same as in Fig. 3 with added flywheel effect. Darkened portion of curves is that over which the motor fluctuates when driving the loom load.

motors to get all the benefits possible? In pursuit of this line of reasoning, a motor with an "adjustable" external flywheel was built and tests were run. As more and more flywheel was added it was found that motor losses were reduced appreciably.

Plotting the data from a test on one popular C & K loom, for example, it was found that by tripling the inertia of its driving motor the losses could be reduced by some 25% (See Fig. 5). Average power factor was higher, and since operation of the loom was considerably smoother, there was opened up the possibility of operating at higher speeds than previously had been considered feasible.

Performance at 1200 RPM

Many mills prefer 1200 rpm loom motors over 1800 rpm for two reasons. First, the slower speed motor takes a pinion with 50% more teeth, and changing one tooth corresponds to a smaller increment of loom speed. Thus, with a 1200 rpm motor it becomes possible for a mill to increase speed in smaller steps and enables it to get the ultimate in production from every loom mount. Second, because the pinion used with a 1200 rpm motor is physically larger, it is mechanically stronger and less susceptible to costly breakdowns.

However, the energy stored in the rotor of the lower speed motor is less than half that in the 1800 rpm motor. As a result the loom equipped with a 1200 rpm machine tends to lope more and it becomes impossible in many cases to achieve performance equivalent to that available with an 1800 rpm drive. It is to compensate for the deficiency in stored energy due to the lower speed that a flywheel is now added to the motor. When this is done, the advantages of 1200 rpm motor may be had without loss of weaving performance.

When is a Flywheel Justified?

At this point it is appropriate to consider whether the addition of a flywheel to all looms can be justified. Study of the curve in Fig. 5 reveals that beyond a certain point the "law of diminishing returns" begins to become effective. In this particular instance

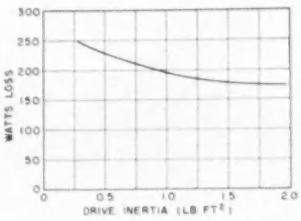


Fig. 5. Curve illustrating effect of inertia on loom motor losses.

increasing the inertia beyond approximately 1.5 lb ft² yields little return. From this and similar data on other small high-speed looms, we may generalize to say that the addition of flywheels to looms of that class are economically justifiable. However, where considerable rotating inertia is already built into the loom, or where the motor rotor inertia is already great as compared with that of the loom, it is probable that gains to be made from adding inertia will be of less consequence. A typical case is that of the large slow speed loom such as is found in paper felt mills, where motor-to-loom gearing is large, and hence the effect of rotor inertia at the loom is great.

In all cases the possibility of applying flywheels should be investigated, preferably with the assistance of a motor manufacturer experienced in such analyses.

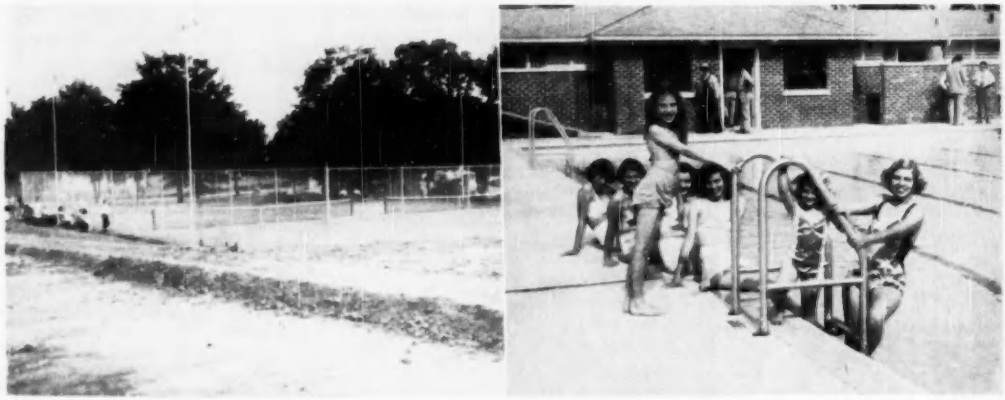
Sponge Rubber-Backed Carpet Sheds Less

A sponge rubber-backed carpet now being manufactured in quantity consists of a face pile fabric and a sponge rubber cushion bonded to the fabric, woven or knitted. The fabric can be made in a variety of patterns corresponding to conventional floor coverings.

A wear criteria comparable to fully woven and chenille type carpeting is claimed for the rubber-backed carpet. Less shedding is a feature, since each tuft is individually bonded in place. The tuft-locking construction permits extremely versatile carpet laying, it is said. No binding is necessary. Piecings are glued in position by rubber cement. A three-inch rubber tape is used to reinforce the cemented seam.

Tacking is optional as the sponge rubber makes the back slip-proof. Manufacturing and installation costs are reduced to a minimum as a result of the rubber substitution for both backing and cushion of the ordinary carpet.

It is reported that FHA has authorized home loans including the purchase price of this carpet when integral with the new building.



Recreation area at Grantville, Ga., made possible through textile mill cooperation under the Community Development Program.

Ga. Mills Push Community Development

Sumner H. Slichter, Lamont University Professor at Harvard and a widely respected economist, has written in "Fortune" that one of the ways in which "business may increase its influence upon [public] policy is by taking a greater and broader interest in the problems of the community . . . I am not sure that business leaders even today realize the importance of showing a broad concern for the problems of the community.

"My greatest doubts relate to the ability of business to win the friendship and confidence of the community—to develop a large number of executives who are so broad in their interests and so deeply concerned with the problems of the non-business parts of the community that the community is friendly toward business and the spokesmen of business win a good hearing. This is the crux of the problem."

Georgia's textile mills have solved this problem. They can well be proud of their achievements as community builders. Today, when the public limelight is being focused on industry and many voices are calling for all types of business to become genuinely community-conscious, Georgia mills can point quietly to unbiased reports to show that they have aligned themselves with their communities for real and lasting public welfare.

By EDWIN B. CALLAWAY
Textile Information Service

EXCLUSIVE TIS

IF A STRANGER has a few minutes to kill in Grantville, Ga., and gets into a conversation with a local citizen about community affairs, the odds are heavy that he will be quickly loaded into a car and taken to see the town's new recreational area. The trip will be well worthwhile, for Grantville has a play center that many larger cities would envy.

First to meet the eye is a modern 75x40 ft. lighted swimming pool and bath houses. The pool was opened to the public a few days ahead of schedule because both kids and adults were so anxious to get into the water that they refused to wait on a little matter like landscaping. The pool cost $60,000, but admission charges are absurdly small—children pay 7c and grown-ups pay 16c. Furthermore, operators are watching expenses closely in the hope that prices may be lowered.

Off to one side are tennis courts that cost $5,000 to build. Youngsters who had never before held racquets in their hands took to the sport swiftly and within a few months were able to place high in a district tournament held in Grantville. In another section of the playground is a 100x70-foot concrete court, which can be used for roller skating, shuffleboard, volleyball, and other games. In a lovely grove are barbecue pits and other facilities for picnics.

Soon to be erected is a recrea-

tion building, which is to cost $50,000 without equipment. The building is to have a youth canteen, reading and game rooms, kitchen, and a banquet hall in the form of an auditorium to seat about 300 persons.

Not far away is a pond stocked with fish which has become a favorite spot for the entire community during leisure hours.

All of these facilities were provided by the Grantville Mills Foundation, a non-profit organization set up by the local textile company. Grantville Mills contributed the money for the foundation to benefit employees and the community at large.

If the local guide happens to be Mayor C. S. Smith, who is also superintendent of Grantville Mills, the stranger will be able to learn in full what the town's outstanding recreation program has meant in permanent community development.

"It would be claiming too much to give achievements of the Grantville Mills Foundation all the credit for the town's progress in the last year or so," Mayor Smith says, "because the municipality completed several much-needed projects. We re-wired the whole town, so that every home could take advantage of electric stoves, washing machines, and other appliances. We also repaired local streets, added many street lights, cleaned and painted the city hall, made improvements in the schools, and conducted several clean-up campaigns.

"However, we feel that the new recreation area is perhaps the best thing to happen to Grantville in recent years."

How has the whole town developed because of this improvement program? Mayor Smith will gladly name steps that have rejuvenated the municipality of 1,267 population: Grantville Mills has built ten new houses and remodeled eight more; twelve individuals have erected new homes because they have more faith in the future of the community; six old business structures were remodeled; and six new business firms came to Grantville—including a cafe, theater, shoe repair shop, department store, cabinet shop, and weekly newspaper.

"Grantville has never been more civic-minded," Mayor Smith asserts. "Young people have plenty to do at home, and they are getting out of the habit of going to larger, neighboring cities for entertainment. For many years, employment in the mill here was almost the only way to earn a living, but now people are finding opportunities in retail trade and in other lines.

"It is surprising how many families from the surrounding county want to move to Grantville so they can take full part in community activities," he continues. "And many traveling salesmen, who prefer to rear their kids in a small town, are seriously considering moving here. They would come right away, if we had housing available."

A talk with W. N. Banks, president of Grantville Mills, or with B. D. Banks, treasurer and also a city councilman, reveals other benefits. The textile executives are convinced that the program at Grantville has reduced absentee-

How the "Champion Home Town Contest" Operates

The Champion Home Town Contest—one phase of the Better Home Towns Program begun in 1944 by the Georgia Power Company—is an incentive for each community to make the most of its resources and possibilities. Charles A. Collier, native Georgian and a vice-president of the utility concern, was all too well aware that many towns were slowly dying from inertia and lethargy. They were not keeping abreast of the times, and large numbers of their brightest and most ambitious young men and women were leaving their home towns and even the state.

At Mr. Collier's suggestion, the power company created a Community Development Division, with experts in many fields available to work with towns and offer constructive advice. The power company did not take upon itself the task of rejuvenating hundreds of towns. In the first place, the job would have been too titanic. In the second place, it was felt that each town should work out its own salvation. The power company could only provide experts to devise long-range plans, help communities with knotty problems, and offer encouragement at every turn.

The program has paid rich dividends. Communities participating in the Better Home Towns Program have been above 200 annually, and last year 266 communities were vying for the title of Champion Home Town of Georgia.

No towns have been more active in the contest than those in textile areas. On file in the offices of the Georgia Power Company are dozens of reports that reveal the vital role played by textile mills in over-all community programs. Many of these companies have long promoted plans for the benefit and welfare of employees, but the reports show how mill activities have been extended to encompass the entire community.

It would be unfair to the power company and its splendid statewide program of community development, if it were not explained that this article has been deliberately confined to activities of textile mills. Most positively it should be said that in no town did a mill carry all the burden by itself. In fact, an over-all community program would fail if all agencies did not enter enthusiastically into the work.

However, in every case the local mill fit its projects into the community plan and cooperated whole-heartedly with the sponsoring organization in improving the town. The total result, frequently made possible only through the support of textile mills, has meant revivified trade, more beautiful environments, better recreation facilities, improved schools, more attractive homes, and all-round more gracious living in scores of towns.

The textile industry has profited, because coordinated efforts in the Champion Home Town Contests have drawn mills and the public closer together.

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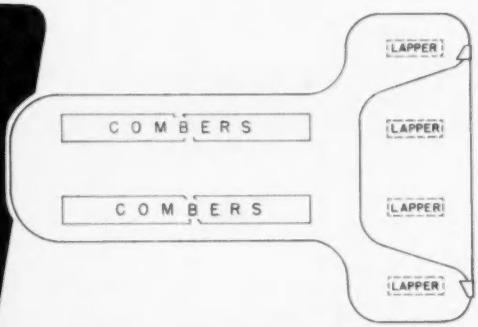

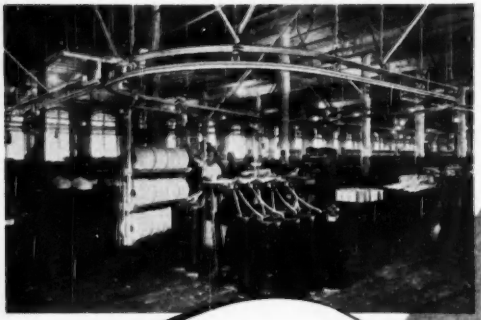

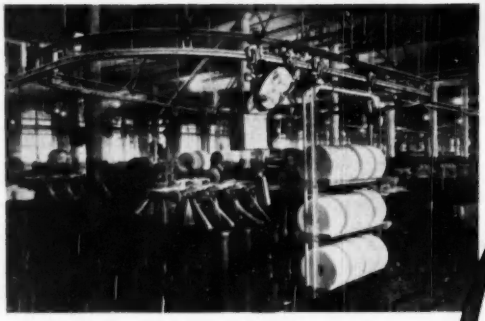

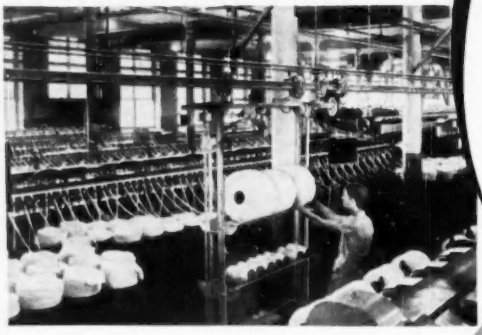

Because the saving in man-hours with this American MonoRail Overhead Handling System ran into the thousands, the first year operation will pay for approximately 80% of the cost of the installation.

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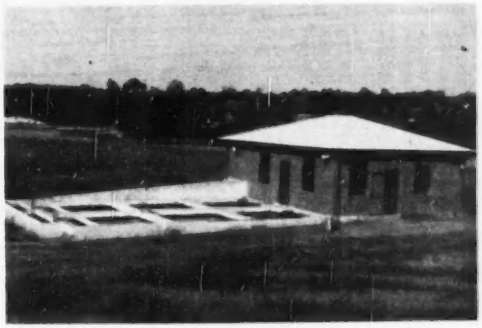

Old and new water works at Jefferson, Ga., another result of mutual community-mill cooperation.

ism at the plant, resulted in less labor turnover, and is bringing higher caliber employees to the payroll.

Looking to the future, the Banks are positive that in the event of a severe recession labor at Grantville is likely to remain at home. The town has more to offer than many other communities.

Accomplishments of Grantville, achieved through close cooperation of the municipal government, mill, and public, won the town an Honorable Mention in the 1948 Champion Home Town Contest conducted by the Georgia Power Company. There has been no letup since then, and the town is active in the present contest.

Griffin, an important textile center and first prize winner in the above 1,000 population class in 1948, is another excellent example. The Griffin program was so closely integrated that in some cases it is difficult to segregate mill contributions from those of the community at large. Nevertheless, Secretary Robert A. Burns of the Griffin Chamber of Commerce says, "Without the cooperation of local textile mills, no real community action could take place."

Here are a few of the major accomplishments of Griffin and the part textile mills played in them:

A $50,000 stadium was built with $30,000 in public subscriptions and the remainder financed by the Board of Education. Healthy donations were made by the following mills and their executives: Dundee Mills, Inc., and affiliates, Lowell Bleachery and Rushton Cotton Mills; Thomaston Cotton Mills; Crompton Highlands Mills, Inc.; Griffin Knitting Mills, Inc.; Griffin Hosiery Mills; and Spalding Knitting Mills.

The mills donated most of the $1,200 needed to fog the city and outlying areas with DDT.

Thomaston Cotton Mills paved streets in its village, painted company houses, and planted shrubbery.

Dundee Mills underpinned 600 company houses, paved ten miles of streets in its villages, and enlarged its lake to 35 acres and stocked it with fish for the recreation of employees. An unusual contest was conducted by Dundee, which offered $350 in U. S. Savings Bonds to employees doing the most to beautify their homes. The contest was not restricted to company villages; any employee was eligible, no matter where he lived. The company offered to pay half the cost of planting such shrubbery as boxwood, azaleas, camellias, and others. More than $8,000 worth of shrubbery was planted in all parts of Griffin at prices considerably under the retail market.

A film entitled "The School That Learned to Eat" was made by General Mills in conjunction with the University of Georgia at the East Griffin School, which was built and is maintained by Dundee Mills. The cotton mill village school was chosen because of its three-year study to make sure that children get proper food at home and in the school cafeteria. The picture was named the "best documentary film in education" at the latest International Film Festival at Edinburgh, Scotland, and was booked for lectures at the Institute of Education at Oxford University.

Dundee furnished playground equipment for the East Griffin School.

When a new $1,200,000 hospital was planned by the community, President John H. Cheatham of Dundee Mills was named chairman of the original Griffin-Spalding County Hospital Authority. Approximately $75,000 was needed in preliminary funds to get the project moving, and local textile mills and executives contributed $37,500 of this.

The Georgia Power Company gives consideration in its contest for establishment of new business firms and additions and improvements in existing concerns, on the grounds that a company has to have faith in the future of the community or it would not spend money for expansion. For this reason, a new bleachery erected by Dundee added credits to the score compiled by Griffin.

Increases in payrolls are another big factor in the contest, and textile mills in the Griffin area added $750,000 to the community's annual income at one stroke by raising wages to this extent.

Other communities also made fine records in the competition, and reports filed by official committees from various Georgia municipalities entered in the Champion Home Town Contest contain frequent mention of textile mill activities.

When a town is sufficiently progressive to land new industries, judges of the Champion Home Town Contest consider this in

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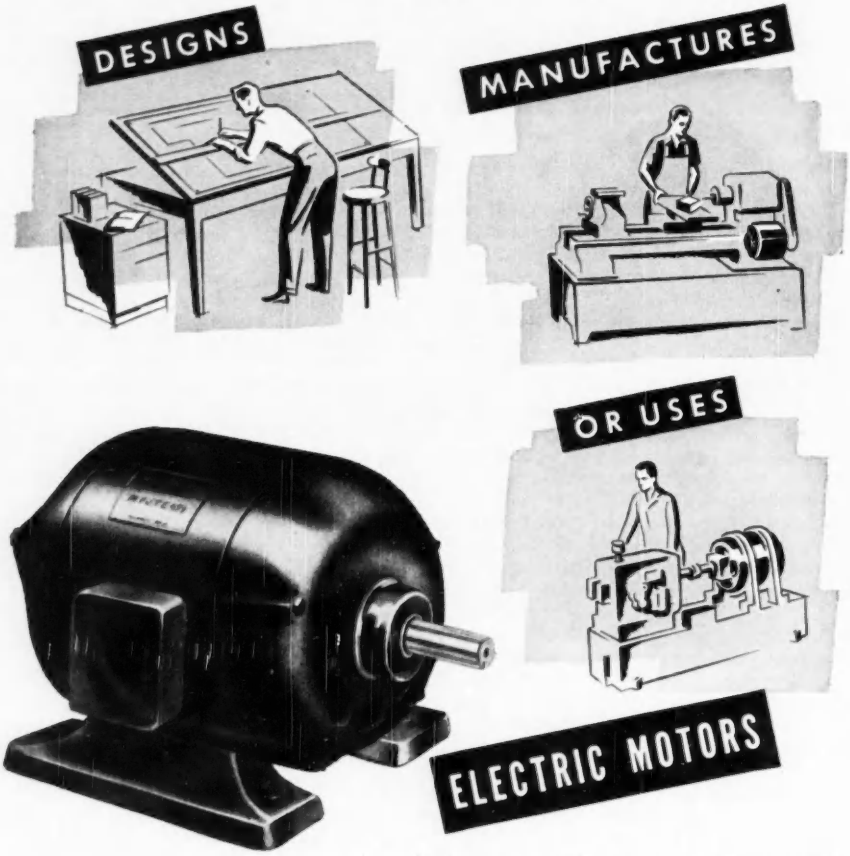

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making awards. Such a town is Hartwell, where the new $3,000,000 plant of Textron Southern, Inc., is expected to revivify the community. The municipality and the county combine their recreation programs, of which one-fourth is borne by The Hartwell Mills. Funds contributed by the latter company help materially in providing facilities for swimming, golf, tennis, softball, and other sports. The Hartwell Mills, sponsor of a Boy Scout troop, has just completed a new Scout cabin.

Textron's Sewing Products Division at Royston is a distinct asset to the community. Its weekly payroll of more than $7,000 gives a healthier balance between agriculture and industry, resulting in a small boom for this rural town. Commercial buildings have been remodeled since the Textron division was opened, and several new homes have been built by individuals who otherwise might not have felt their future secure in the community.

Leading citizens of Royston state that the standard of living for the whole town of 3,500 population has been raised because Textron placed a branch there. A portent for a sounder future can be seen in plans for the Cobb Memorial Hospital, started with funds given by Ty Cobb, the noted big leaguer, in honor of his parents. Textron has made sizeable donations towards the institution.

When Covington began work on an extensive recreation program, the town turned—as it has so often in the past—to executives of Covington Mills for guidance and assistance. R. O. Arnold, president of the mills, served as chairman of the American Legion Committee charged with creating a lighted athletic field. He was also chairman of the Kiwanis Club Committee that sponsored the building of a $75,000 swimming pool. Both of these projects have meant much to the entire community, and a gala celebration was held last summer when the pool was opened.

Mr. Arnold is genuinely proud that every employee of his mill had a part in building the pool. Each of approximately 400 operatives donated a day's pay, totaling about $3,500, to the project. Negroes at the mill wanted to give to the pool, but their donation of pay was set aside for a gymnasium to be erected at the colored school. The mill also made a contribution towards the gymnasium.

The subject of the swimming pool should not be passed without mentioning that N. S. Turner, vice-president of Covington Mills, drew plans for the pool and engineered its construction—effecting considerable savings for the community.

Such cooperation between mill and community has resulted in permanent labor of a high type. "Our labor turn-over is almost at zero," Mr. Arnold states. "Practically our only replacements are made because of deaths. More than half our operatives have been with us 25 years or longer, and we have several fourth-generation employees. We now have sons, fathers, and grandfathers all in the mill together."

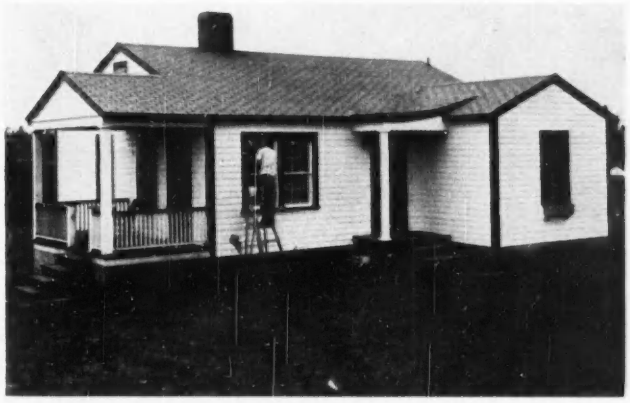
Covington Mills built a grade school and furnishes heat and upkeep, although it is operated by the county school system. There are three playgrounds in the mill area.

Employees are very active in community affairs. The plant superintendent has been area chairman for the Boy Scouts and now serves on the state council; a weaver coaches the town's midget baseball team; and twelve merit badge counselors for the Boy Scouts are mill personnel.

Indicative of the over-all part the mill plays in its community is the offer of its machine shop, the best equipped in the section, to farmers and others at a nominal charge. Many citizens use the shop regularly, creating a fast bond between the company and the public.

Cedartown received credit because Goodyear Clearwater Mills erected a $750,000 addition to its plant and installed much new machinery. The town's report proudly pointed out that in 22 years Goodyear had increased the number of employees from 365 to 1,500, with the annual payroll rising from $228,000 to $3,560,000. The report also praised two local mills for painting 295 homes in their villages. Such improvements contributed a great deal towards Cedartown's Honorable Mention award.

Another textile town to win an Honorable Mention in 1948 was Jefferson, where the contest was sponsored by the Jefferson Civic Improvement Association. The association was founded by M. M. Bryan, Jr., president of The Jefferson Mills. His brother, S. F. Bryan, assistant treasurer of the mills, was president of the civic group during the 1948 contest period. The mill and its personnel



In the Community Development Program, the textile plant in the community provided the floor plans for homes such as this, and also assisted with the financial arrangement.

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played important roles in promoting community development.

The company provided floor plans for houses of five, six, or seven rooms and announced it would arrange financing for employees wishing to own homes. Approximately 30 homes were erected on this basis, with payments running about $10.00 a week. The Jefferson Mills also painted all company-owned houses in its village, paved the village streets, and completed considerable landscaping.

The company took over the town's abandoned swimming pool and converted it into a favorite recreation spot for the community. In the same play area is the mill-created Jefferson Memorial Field, dedicated to service men and women of World War II and used for several different sports by mill athletic teams, high school squads, and the community as a whole. Nearby is a picnic ground, and fishermen can enjoy a well-stocked artificial lake.

A new clubhouse was completed by the mill recently and is widely used by civic clubs, church organizations, youth groups, and many other community bodies. Mill employees have first call, naturally, but any Jefferson organization is welcomed. The clubhouse has a fine kitchen, showers, and restrooms for men and women, a juke box for dancing, and other facilities. Plans call for installation of a television set.

"In arranging our programs we take the entire community into consideration," President Morris Bryan explains. "After all, Jefferson is a small town and our mill is the largest industry here. We want our employees to be a genuine part of the community, and we want the town to know that the mill always has the interests of the community at heart."

One recent Champion Home Town Contest in Jefferson was conducted by wards, and H. L. Garrison, master mechanic at the mill and a city councilman, was chairman of his ward.

Jefferson has completed a new waterworks costing $125,000, the town selling revenue bonds to raise $100,000 and the remainder contributed privately. Officials of The Jefferson Mills modestly state that "the company made a donation." The mill paid 40 per cent of the cost of a new brick school for Negroes, which has been named Bryan School in honor of the late M. M. Bryan, president of the mill for many years.

Summarizing other improvements briefly, Jefferson received added consideration in the contest because the mill conducted an extensive modernization program, offered high school graduates scholarships to Georgia Tech (of 19 graduates, eight said they would like to study textile engineering), sponsored a baseball school under the auspices of the St. Louis Cardinals, and held a vocational school under the textile training program supervised by Georgia Tech.

Textile mills in other towns aided materially in the Champion Home Town Contest. At Hogansville, the competition was sponsored by the Lions Club under the presidency of Dr. G. C. Holroyd, who is in charge of asbestos research for the U. S. Rubber Co. The Company, for its part, paved many streets in its former village (all homes were sold to individuals in 1946); landscaped approaches to the mills; converted an unused area adjoining the plant into a permanent pasture for the benefit of the community; provided a room in the mill's community house for the town library; and offered use of the community house for classes when a public school was condemned.

Employees of the U. S. Rubber Company's textile mills at Hogansville initiated the local golf course, and mill personnel designed it and superintended construction. The mill's swimming pool was used for Red Cross water safety courses, sponsored by the Hogansville Kiwanis Club. The company held a tonsil clinic, retaining out-of-town surgeons to treat all kids in the community (children of employees were covered by company insurance, while others paid a nominal fee).

At Manchester, a branch of Callaway Mills takes an active part in community affairs. The Callaway Community Foundation contributed half the cost of the Manchester Memorial Athletic Field, created in memory of veterans of both World Wars. The field has a grandstand and is lighted for baseball, football, tennis, and track events. It is used regularly by the local high school, five local baseball teams, and other groups. Days are set aside for use by Negroes.

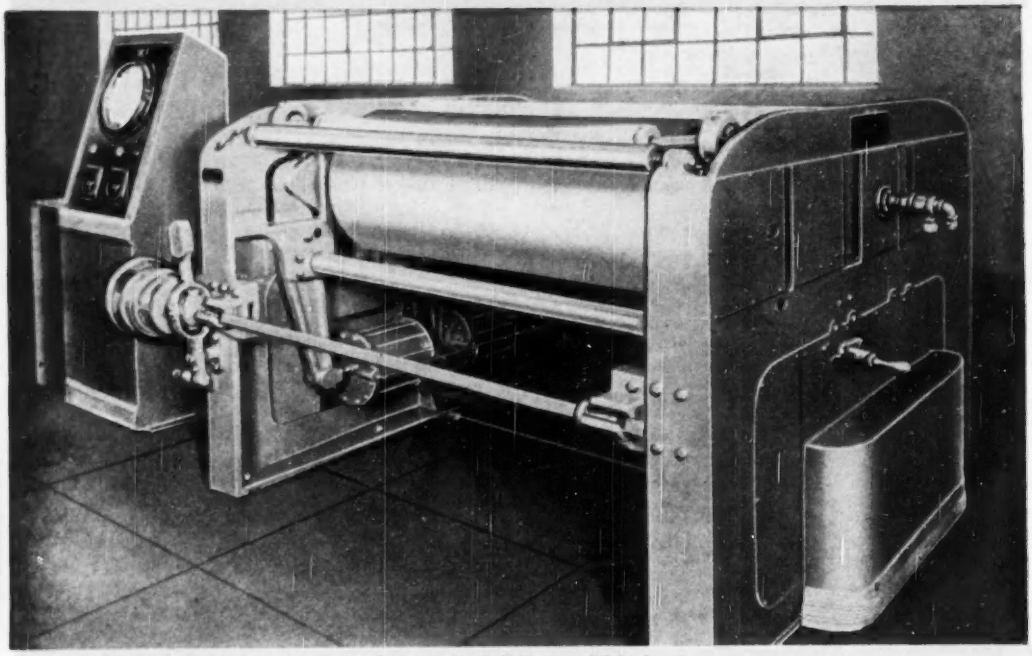
During the past three years, the company has paid for paving all streets in the mill villages, although the houses were sold in 1946 to individuals at a low cost.

The Callaway Foundation has offered to match, dollar for dollar, funds raised locally for a new hospital. And, an unusual touch, the organization donated a tract of ground worth $10,000 for the City of Manchester's cemetery. Another unique aid for the community is the collection of garbage by mill-owned trucks from all homes formerly owned by the company — thus relieving the municipality of the expense.

The Pepperton Cotton Mills at Jackson paved streets in its village, underpinned homes, and erected a waterworks system and sewage disposal plant to serve homes of employees. A Boy Scout troop was sponsored, mainly for boys of employees but open to others in the vicinity.

Reports filed with the Georgia Power Company reveal many such examples of how textile mills work towards the betterment of their communities. The Social Circle Cotton Mill Co. sponsored the construction of a 9-hole golf course; Villa Rica Mills, Inc., built a baseball diamond; Imperial Cotton Mill at Eatonton arranged a loan at a low rate of interest, whereby the municipality was able to install new water tanks and mains to furnish water to the plant and adjacent residential section. The development, which benefits 550 persons in 92 homes, is self-liquidating.

Clark Thread Co. at Pelham has thrown its support behind community undertakings. Manager P. B. Stephens has been president of the Pelham Business Men's Club, local sponsor for the Champion



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Home Town Contest. The club has been responsible for enlarging and improving the Pelham State Farmer's Market, which handles much of the produce grown in that rich agricultural section. As evidence of its faith in the town and its future, Clark Thread Co. has built 40 new houses for employees.

Among other towns mentioning local textile mills in their reports to the Georgia Power Company are Forsyth, Tifton, Greensboro, and Talbotton. Most of these involved improvements at the local mills, like physical expansion or modernization programs.

While it is impossible to relate in detail what every company has accomplished, many readers may wonder why some of the other well-known mills of Georgia are not mentioned in this article. There are two reasons why they and their frequently extensive community programs were not included. First, the power company limits its contest to communities of 20,000 population or under. This automatically excludes such flourishing textile centers as Macon, Augusta, Columbus, Atlanta, and Rome. Second, many eligible towns did not enter the Champion Home Town Contest, and this article has been confined strictly to written reports and information provided by representatives of the Community Development Division of the Georgia Power Company.

Photochemical Development of Dyes

By DR. LEONARD E. RAVICH*
Vice-President in Charge of Research
Vat-Craft Corporation

Discussion of the use of optical and radioactive source material sensitizers in the photochemical development of dyestuffs.

GENERAL information concerning this development has already been published (see page 72 of the January 1950 issue of TEXTILE INDUSTRIES; *also page 136 of the February issue). Presented here is technical information on this widely publicized process which has been commonly referred to as "atomic dyeing."—The Editors.*

THE VAT-CRAFT laboratories first investigated the photochemical activity of chloride, cyanide, and sulphonate salts of diazonium. Resultant data served as a foundation for a research program in the field of photochemistry.

Diazo materials were used for photographic textile printing but were unsatisfactory according to "Crown Test" standards. Using indigosols in a procedure requiring addition of formic acid to a dye solution in order to accelerate photochemical development, photographic reproductions of moderate fastness were obtained on novelty fabrics.

No great commercial use of this process was possible due to the extremely slow speed of development using standard photoprinting equipment. The color range was limited and only colors of the anthraquinone group, which possess the poorest fastness properties in the indigosol range, could be used.

Use of indigosols with optical sensitizers in neutral solutions was next attempted. Fabrics were printed at speeds of up to 20 feet per minute. Textile laboratories testing samples of the product reported results superior to those obtained from standard methods of printing. This is probably due to the particle size distribution obtained by photochemical development.

Since mono-color photographic printing is limited in the production of novelty fabrics, the negative between light source and cloth was eliminated so as to expose the entire surface of an impregnated fabric to a source of radiation. A uniform color development was obtained over the cloth. Although test reports were excellent, production speeds were not adequate to compete with known vat dyeing methods. The colors were still limited to anthraquinones.

New sensitizers to allow complete photo-oxidation of a wide range of dyestuffs at high speeds were investigated. Eventually, a photochemical sensitizer fulfilling all the requirements of commercially feasible dyeing was developed.

Theory of Photochemical Dyeing. In the leuco state, the soluble sodium salts are sensitive to oxiding agents. In present methods of vat dyeing, the pigment is padded directly onto the fabric, converted to the leuco form with caustic soda and hydro, and then oxidized. The Williams Unit and the Du Pont Pad Steam Unit em-

*Abstract of paper presented at January 1950 meeting of the New York Section, American Association of Textile Chemists and Colorists.

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ploy this technique.

At least two ketone groups are present within the molecule of all vat dyes. The condensation of two or more ketone groups directly or through bridging atoms, forms large molecules that are very insoluble. The ketonic groups are responsible for the possible reduction to the solubilized leuco form.

The converted ketone groups are transformed into hydroxy groups and can form sodium salts. A stable and soluble derivative of a vat dye is obtained when its leuco sodium salt is treated with chlorosulphonic acid. Practically every dye can be converted into the soluble form. The commercial yield of an indigosol manufactured from a vat is not always great enough to warrant conversion and many of the vat colors are not available in the soluble form. The indigosols have a great affinity for many fibers due to the two sulphuric acid groups within the molecule.

In normal dyeing methods, the cloth is impregnated with an aqueous solution of indigo. Upon passage through a mild oxidizing agent, such as nitrous acid, the sulphuric acid group slips off and the leuco derivatives of the dye oxidize instantly back to the original vat which precipitates within the fiber and becomes part of it. In this method, there is loss of dyestuff washed out by the developing solutions. Tendering of the cloth might result, and dyeing dark or medium shades is economically prohibitive.

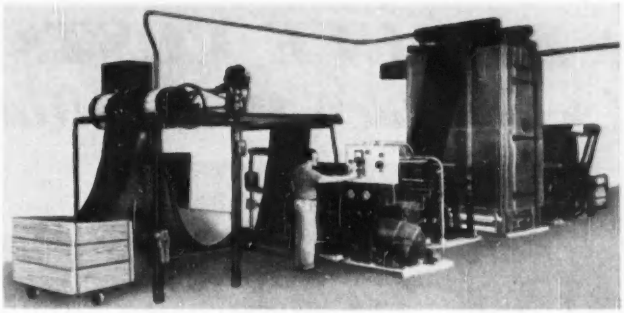
Dry powdered indigosols are sensitive to light and upon exposure to radiation are oxidized to the original vat pigment. Upon exposure to radiation, an indigosol saponifies to the leuco form of the vat dye followed by a subsequent oxidation to the original vat pigment. The leuco base formed by the photochemical saponifacation is converted to the pigment form of the vat by immediate air oxidation. Water must be present to allow saponification.

Photosensitizer UA-1. In photosensitizing processes, the light which causes the reaction to proceed is absorbed by some added substance which is capable of passing on the absorbed energy to the reactants. Many organic substances can be oxidized on illumination by passing air in the presence of uranyl salts.

On absorption of light quanta, the electronic orbits of the uranyl ion are distorted. One end of the molecule forms a cathode, the other an anode. A state of polymerization exists in which the atoms (or the complex UO_2) is positive in one portion and negative in the other and consequently becomes simultaneously oxidizing and reducing in its behavior, depending on temperature and pH. The displaced electrons return to their original state through a "molecular electrolysis," the energy for which is derived from the increase in the potential energy of the valence electrons attained during light absorption. Photosensitization may also be ascribed to the absorption of light by complexes formed between sensitizer and one of the reactants.

The same theories could be applied to develop a sensitizer for the photochemical precipitation of dyestuffs. A uranium dye complex that can be either an oxidizing or reducing medium as desired, depending on pH and temperature, is the primary constituent of the Vat-Craft sensitizer. Other photosensitizers such as dyes in the cyanine group (carbocyanine, dicarbocyanine, isocyanine, etc.) could be added to further increase the speed of the process.

The dye photosensitizer coupled with the uranium compound allows enough energy to impinge on the cloth, when passing through a source of radiation, to convert the indigosols or other leuco forms of the vat dye to the vat pigment form.



Range for photochemical application of dyes to fabrics.

Vat-Craft Machine and Process. As the fabric goes through the first unit of the Vat-Craft machine, a Padye padder, it is impregnated with dye solution containing some of sensitizer UA-1, a swelling agent, and a dispersing agent.

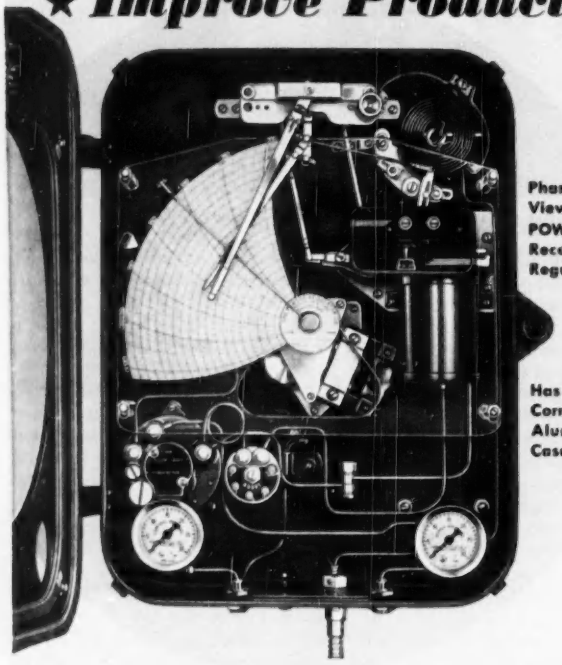
The cloth then goes through a three-ton quetsch where it is immersed in a shallow pan containing a photosensitizing solution which makes the dye photochemically active, and then through squeeze rollers.

The third unit of the range consists of a development chamber about 15 feet high, six feet wide and containing two vertical rows of fifteen 3750-watt lamps each. The lamps are especially constructed to emit a spectral range of optimum photochemical efficiency. These two tiers face each other about a foot apart. Each tier has a quartz screen in front of it. The fabric passes between the screens, developing like a film.

The quartz screens permit passage of useful radiation, yet keep the temperature in the development area down to 100 F. The fixed and developed cloth is then passed through a water rinse.

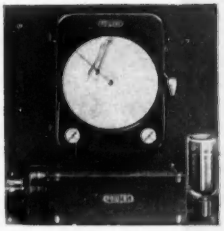
Capabilities. It is possible to dye all types of fibers since the dye solutions and sensitizer solutions are always neutral. Indigosols, vat pigments, stable leuco bases, diazo dyestuffs, diphenyl black, and sulphur dyestuffs have been used in the process.

★ REDUCE COSTS
★ Improve Production

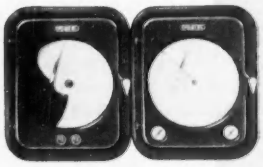


Phantom View of POWERS Recording Regulator

Has Non-Corrosive Aluminum Case



ABOVE: POWERS WET and DRY BULB RECORDING REGULATOR. Also available as a recorder only. Unit consists of two pen recording thermometer, water pan and motor blower causing sufficient circulation to give proper wet bulb readings.



ABOVE: POWERS TIME CYCLE RECORDING REGULATOR. Cam with cam follower operates steam control valve to correspond with any pre-determined time temperature schedule. Recording thermometer chart record provides a check on the operation of the control.

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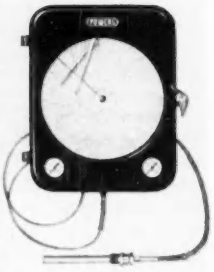

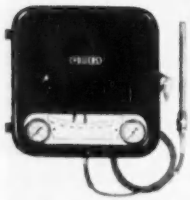

Variety of Models: Recording Thermometers; Recording Regulators; Indicating Regulators; Wet and Dry Bulb Recording Regulators; Time Cycle Recording Regulators; Master and Sub-Master Indicating and Recording Regulators, etc. *Write for Bulletin 370.*

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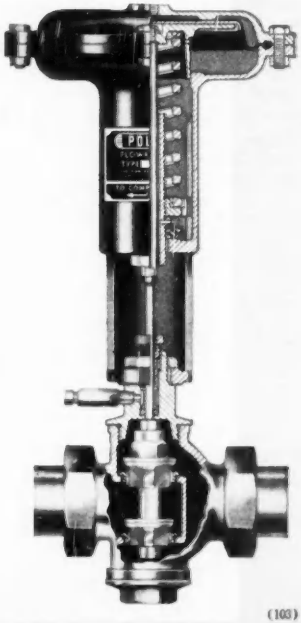

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ABOVE: POWERS FLOWRITE VALVE

THE POWERS REGULATOR CO. • OFFICES IN 50 CITIES

The Road to the Poorhouse

"Any government, like any family, can for a year spend a little more than it earns. But you and I know that a continuance of that habit means the poorhouse."—Franklin D. Roosevelt (in 1932).

THESE REMARKS by President Roosevelt in one of his speeches when a candidate for office, as compared with his later course of action after assuming that office, illustrate with the utmost clarity one of the principal reasons for our present frightful burden of taxation and terrific national debt. What a politician really believes he should do, and what he actually does under political pressures, may be entirely different.

The above remarks of the late President, and many others that he made as a candidate, indicated a wise and sound conception of the responsibilities of the government toward the people, and he never made a truer statement than when he said that a continuance of the habit of living beyond one's means leads to the poorhouse. That he later kept us on the road to the poorhouse, and paved it, does not detract from the soundness of his observation when looking at the problem from the outside instead of the inside.

It is probable that all of the present members of our Congress have, at one time or another, openly advocated government economy, and it is almost certain that most of them must know that the government is spending too much money and getting too little in return for what it spends, and that the taxpayer is carrying an intolerable burden on his march to the poorhouse. However, this same legislator, faced with the inexorable demands of his constituents for government hand-outs, does just what might be expected—he subordinates his honesty and his commonsense to his desire to hold his job.

Most legislators applaud economy and prudence in theory, but rise in wrath at any attempt to practice it in their constituencies. The attitude of the typical legislator is that a little economy in somebody else's district would be a fine thing, because he would then have less trouble getting an appropriation for his.

A classical example of the conflict between commonsense and local self-interest occurred last year when the Secretary of Defense decided to get rid of 135,000 unnecessary civilian defense employees and curtail a lot of other unnecessary military expenditures to effect a total saving of seven hundred million dollars in a year and a half. A storm of protest immediately broke out in Congress, and according to a press report, out of a delegation of some 30 members of Congress and spokesmen for about 70 others, only three agreed that this saving of seven hundred million dollars was wise and prudent. The rest of them vigorously protested the firing of 135,000 people who were obviously not needed, but were voters, and the cutting off of unnecessary expenditures which were benefiting sources of supply in the bailiwicks of so many Congressmen.

EXCLUSIVE

By RINGOLD ARDEN

Seven hundred million dollars is, of course, a lot of money to anybody but the government. It is certainly a lot of money to the people who have to pay it out in taxes. To a group of harrassed legislators, however, it can merely be the means of keeping a few hundred thousand voters contented, and if it can't be chiseled out of the taxpayer, it can be borrowed from him and put on the cuff for him to pay later. The all-important thing is that it be available for spending where it will do the most political good.

A high-ranking public official was recently quoted as saying that economy must begin in the other fellow's district and not in his, and that when he was in Congress he was careful to see that his state did not get left out of anything. That probably accurately describes the attitude of many politicians who have managed to stay in the House or Senate for any considerable length of time. In fact, any politician who expects to get reelected the first time can not depart very far from that political axiom. There is not the slightest doubt that the 135,000 persons dismissed by the Defense Department were not needed in the first place, and were put on the government payrolls mistakenly. However, once they get on the payroll, it is a Herculean task to get them off.

It happens very frequently that you will be reading a newspaper in which the editor delivers a thundering Philippic against government extravagances and crushing taxes, and just below this statesmanlike outpouring of right-

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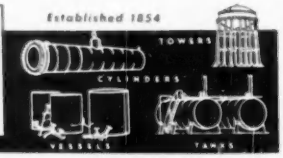

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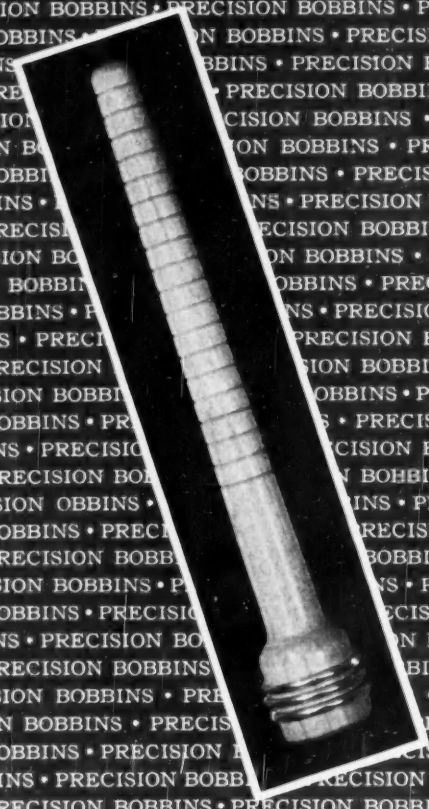

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eous wrath, there will be an equally vigorous editorial demanding a government dam, or a government sponsored highway or grade crossing removal plan, or some other raid on the Treasury.

About a year or so ago, a southern utility, a privately owned corporation, put up a losing fight to be permitted to develop the water power on a river. One of the government agencies won the right to build this dam with public money. We forget which agency finally won the privilege of spending this money, since there are several engaged in overlapping activities connected with dam building and reclamation work, and all of these agencies are bitterly fighting each other for money to spend.

The Hoover Commission estimates that at least a billion and a quarter dollars have been wasted because of duplication and competition between the different government agencies concerned with flood control, reclamation, and hydro-electric projects. This discovery by the Hoover Commission had hardly been publicized before a storm of protest arose in hundreds of localities over any change that would diminish the squandering in those localities. Everybody wants somebody else to be economical so that his own pork barrel will be a little greasier than usual.

THE FAULT for all of this extravagance and waste and cynical disregard for the taxpayer and for the stability of the government, rests, primarily, with the people rather than with the representatives they send to Congress. If the people choose to send honest, courageous, strong men, with plenty of character, to Washington, they will get the kind of government that men of that caliber would institute and administer.

On the other hand, if they prefer to elect to public office the type of men who are anxious to pander to the most venal desires, they will get the kind of government that men of that type will institute and administer.

To get a change in the attitude of the government, there must be a change in the attitude of the people. The present attitude of the people is definitely that they like government squandering. The people have had practically no chance for 17 years to vote for anybody who promised efficient government, but each time they have had a chance to vote for somebody who threatened even mild curtailment of government extravagances, they have enthusiastically voted for a continuance of profligacy.

Every time the question of government economy is raised, somebody rises to ask, "Where will we cut?" Any answer to this question brings forth a scream of protest, "But you can't cut that!" The President consistently refers to expenditures for national defense as "fixed charges." Almost any of the millions of men who have served in the Armed Forces have noticed that waste is a very present, and not necessarily fixed, charge. If a little efficiency could be injected into the military departments, a saving of maybe 20 or 25 per cent could be effected, and if a great deal of efficiency could be applied, we might buy what we need for half of what we are going to pay for it.

The military establishment has too long been run on the basis of putting 135,000 unnecessary people on the payroll just because there is an appropriation that will permit it. This mania to get as big an appropriation as possible, and to see that every dollar of it is spent, is characteristic of practically every government agency. Almost any time that a bunch of ex-servicemen get together you can hear weird tales of incredible waste in the spending of the taxpayer's money. During the recent war there were droves of war plants that hired three or four or five times as many people as were needed, and kept them sitting around doing nothing because cost-plus bonuses were so much fun.

The number of government civilian employees is at present, we believe, the highest in history. The slightest attempt to remove any of these people from the payroll will meet an almost solid resistance in Congress. For years we know of federal agencies employing hundreds of people who, according to the testimony of the employees themselves, did nothing. They were simply on a payroll because somebody had wangled an appropriation to put them there, and once there this appropriation became an annual necessity.

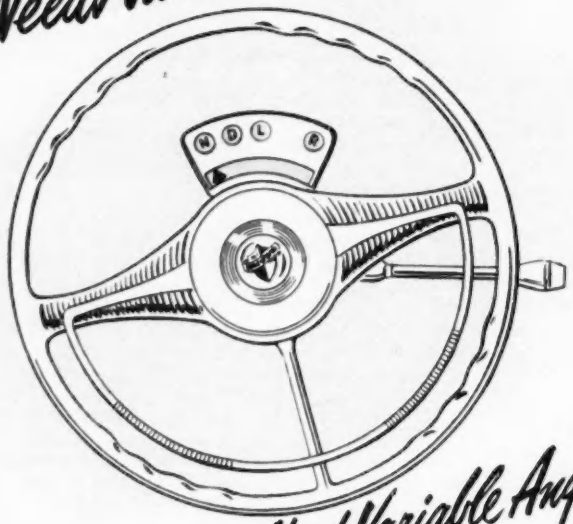
Any move to hire unnecessary people, or spend unnecessary money, can prove to be a blessing to some Congressman or Senator in his race for reelection, and any attempt to save money from being squandered wastefully and foolishly will appear to hundreds of Congressmen as a political death sentence. They are caught in the toils of an insatiable demand on the part of the people for something for nothing, and they lack the wisdom and courage to stand up for what is right instead of for what is expedient and politically profitable.

The President has called for higher taxes. It is true that he has suggested the abolition of certain taxes, but he has not advocated tax reduction; he has stated plainly that if certain taxes are abolished, others must be found to replace the revenue. There is no suggestion of a reduced need for taxes. The taxes that are to be abolished are the ones which are probably the most irritating to the public — the so-called nuisance taxes. It is proposed to replace these direct taxes which are found so irritating with a soothing indirect tax in the form of an increased levy on corporation income.

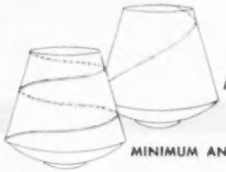
The corporation tax is a sales tax, and nothing else, but fortunately it is a hidden tax that the poor chump of a taxpayer seldom recognizes as a sales tax, and consequently it is like balm of Gilead to the harried Congressmen, faced with the impossible problem of finding that non-existent thing—a painless tax.

Since Mr. Roosevelt made his admirable observation in 1932, the road to the poorhouse has been widened and beautified. Picnic tables have been provided along the way and there has been a lot of seductive landscaping to divert the attention of the traveler from his destination. However, the road still leads to the poorhouse.

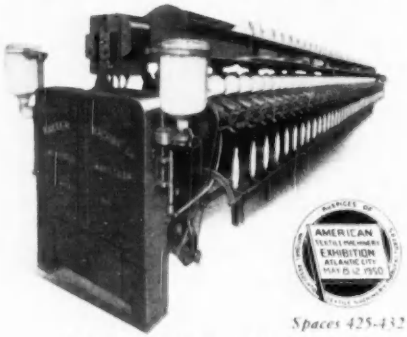
Your Car Needs Variable Speeds



Your Winders Need Variable Angles of Wind



Changing conditions on the highway require that your car be equipped with different speeds, and changing conditions in the textile industry require that your winders be equipped to produce different angles of wind without additional cost.



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FOSTER MODEL 102
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Increasing Mill Production Through

Effective Instrument Maintenance

Part 4*

By E. A. MURPHY

Minneapolis-Honeywell Regulator Co.
Brown Instruments Division

CONCLUDING his series of articles on instrument maintenance, Mr. Murphy presents a discussion of electric and pneumatic controllers, maintenance problems in specific textile mill applications such as size storage kettles and air conditioning instruments, importance of well planned maintenance program and suggestions for organization to accomplish results.

Controllers. The majority of industrial instruments employed in the mill function as automatic controllers. As such, they differ from indicators and recorders only in that they incorporate some form of pneumatic or electric control unit. In almost every case the control unit is actuated by the instrument pen or pointer, which means that all factors previously discussed as affecting the operation of the indicating and recording functions of an instrument also apply to the ability of the instrument to control properly.

Tampering With Controller Setting Causes Much Trouble. A control instrument of the proportional, or proportional-plus-reset type is supplied with facilities for adjusting the proportional band and/or reset rate. When such a controller is installed on a process, it must be carefully "tuned" to the characteristics of the process, i.e., its proportional band and reset rate must be adjusted so that the resulting control action will cause the controlled variable to perform in the desired manner. This tuning process must be carried out by someone familiar with instrument operation and process characteristics.

Once the proper control settings have been made, it is imperative that they be maintained until changes in the process itself call for further adjustments. It must be remembered that industrial control instruments are purposely designed to provide great sensitivity and to react quickly and positively to any changes in the control settings. This inherent sensitivity means, of course, that process upsets can and will occur if unauthorized personnel are allowed to tamper with controller settings.

In many cases, process upsets and emergency calls for the services of maintenance personnel have been greatly reduced through the simple expedient of keeping instrument cases locked at all times, the keys being available only to authorized maintenance personnel.

This may seem to be a point of minor importance in an article devoted to maintenance, but unfortunately most persons are so constituted that they find it very difficult to resist the temptation to turn a knob or change a dial setting on an unfamiliar piece of equipment. There have been cases where it was impossible to obtain continuous satisfactory process operation until the practice of keeping instrument cases locked was adopted.

Pneumatic Controllers Must Have Supply of Clean Dry Air. Many control instruments employed in the mill utilize compressed air as an actuating medium. In every case, parts and air passages in the control units are extremely small, and subject to clogging if the supply air contains any dirt or oil. Moreover, some of the parts used in the units are subject to corrosion under continued exposure to the oil and water mixture sometimes obtained from old or worn air compressors.

It is impossible to overemphasize the importance of assuring a continuous supply of clean dry air to pneumatic control instruments. Adequate air filters and dripwells should be specified, and should be inspected periodically and cleaned or replaced when necessary.

Periodic inspection of pneumatic control units should include a check of the pilot valve, flapper and flapper nozzle, and the air pressure from the reducing valve. A small stock of those parts of the control unit susceptible to damage or mechanical failure is excellent insurance against costly process shut-downs.

Electric Controllers. Electric controllers in general can be classified as one of two types: mercury switch controllers in which the electrical contacts are sealed inside a glass envelope; and open contact controllers of either the on-off or porportional type.

Mercury switches, of course, require no cleaning or servicing, other than occasional replacement. They should be inspected periodically, however, for signs of air leakage into the tube, a condition which is usually evidenced by a dark coating on the inside of the

*Parts 1, 2, and 3 of this article appeared in the November and December 1949 and January 1950 issues, respectively.

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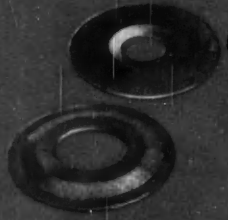

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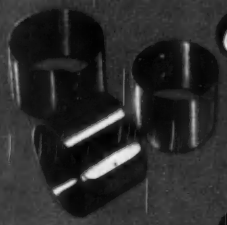

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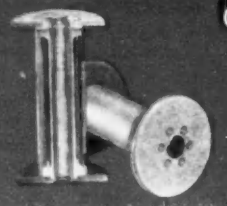

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glass. This coating, which is caused by oxidation of the mercury, gradually grows worse, increasing the resistance through the switch and causing abnormal heating and eventual failure.

It is recommended that switches showing any sign of air leakage be replaced as quickly as possible to avoid the possibility of switch failure at some critical time.

When the use of a mercury switch controller is contemplated, it is well to check on the amount of vibration that can normally be expected at the place where the instrument is to be located. Although excessive vibration is not likely to damage either the instrument or the mercury switch, it can, under certain conditions, cause erratic control action. This is true because abnormal vibration can cause the pool of mercury within the switch to oscillate back and forth, alternately making and breaking the control circuit independently of the amount of control called for by the instrument.

Where mercury switches must be used regardless of the amount of vibration present, auxiliary relays with locking circuits should be used. Obviously, whenever mercury switches are employed, the instrument must be carefully leveled when mounted.

Periodic inspection and cleaning of open contact switches and proportioning rheostats is important since dirty contacts result in faulty control action. The contact surfaces can be cleaned with No. 4/0 sand paper or smooth hard paper. Files or emery paper should never be used, because of the possibility of pitting or changing the contours of the surfaces, thus lessening the metal-to-metal contact area and increasing the resistance through the switch or rheostat.

Lubrication of Control Valves. Correct operation of a pneumatically or electrically operated control valve is as important to the functioning of a control system as is proper operation of the instrument and its control unit. Satisfactory control can not be obtained, for example, if the transmitted air pressure from the controller increases from 4 to 4½ psi, calling for movement of the control valve, and if stem friction or other resistance within the valve makes necessary an increase of 5 or 6 psi applied air pressure in order to effect valve movement. This condition is especially undesirable when the controller is of the proportional type in which case there are an almost infinite number of control valve positions between full open and tight shut.

Control valves should be inspected periodically and lubricated when necessary. Many pneumatically operated or diaphragm motor valves are equipped with means of lubricating both the upper and lower valve stems. When replacing the packing in a valve, care must be taken not to screw the packing gland nut down so far that binding of the valve stem occurs. In some instances, leakage from the packing gland is stopped by taking up further on the packing gland nut which should only be "hand tight." This practice is sometimes responsible for binding or sticking control valves. If leakage occurs with the packing gland nut in its normal position, it is usually advisable to install new packing.

Maintenance Problems in Textile Applications. Although the problem of instrument maintenance in a textile mill resembles to a great extent that existing in any other industrial plant, there are a number of conditions which are applicable to the textile industry. Some of those most frequently encountered will be discussed.

Size Storage Kettles. Occasionally a situation will arise where a size storage kettle will not come up to the desired temperature even though the set point index of the automatic control instrument is properly set. Dirty or size-caked heating coils are the most common cause of this condition. The heavy coating of size partially insulates the heating coils and prevents heat from the steam from being transferred to the size solution. Heating coils should be inspected and cleaned at regular intervals.

Whenever an automatic control valve is employed, it is common practice to install a by-pass around the valve so that the valve can be blocked out of the line by means of suitable hand valves for inspection or maintenance purposes.

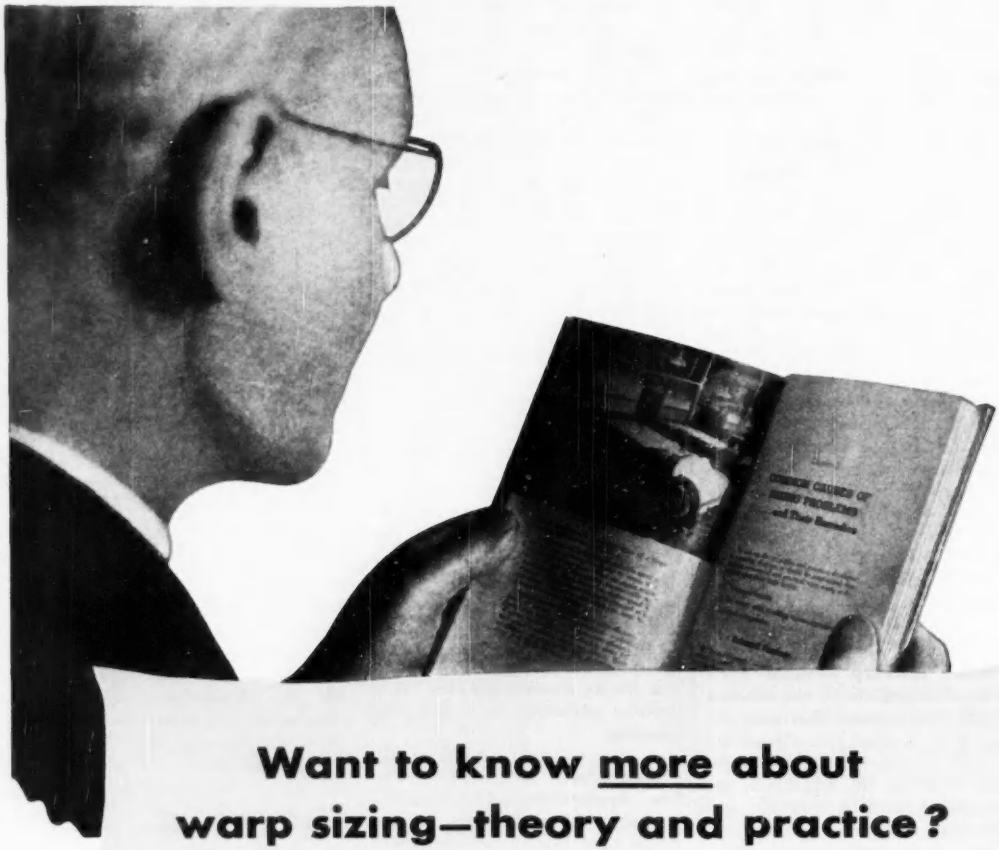
In some instances, it has been found that the hand valve upstream from the automatic control valve was left partially closed after the inspection had been completed and the process returned to automatic control. Under such conditions, it is obviously impossible for the controller to bring the kettle up to temperature since the automatic control valve can not supply enough steam to the heating coils, even though fully open.

All by-pass hand valves should be locked in the proper positions. Valves upstream and downstream from the control valve should be kept fully open whenever the process is under automatic control.

Hard Size Problem on Slasher Shutdown. Some mills experience difficulties with hard size when the slasher is shut down for a short period of time. The reason for this, of course, is that with the slasher shut down, the heat loss from the size box is so low that the thermometer controller does not supply enough steam to keep the size on the surface of the box from cooling slightly. This condition can usually be remedied by running a small by-pass around the control valve and setting a hand valve in this line to supply enough steam to keep the surface size from cooling when the slasher is shut down.

Size Box Running Dry or Overflowing. Size box level is usually controlled either by means of an electrode type system or a thermometer controller. In the case of the former, it is important that the electrodes be mounted firmly so that vibration cannot change their settings. They should normally be placed where the size thrown off by the squeeze rolls will not tend to build up a deposit on them, since continued operation under such conditions can cause the deposit to short out the electrodes with the result that the size box can run empty.

Once the electrodes have been set at the desired size level, they



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should not be tampered with since changing their setting changes the level at which the size will be maintained. Proper installation and periodic cleaning is usually the only maintenance required.

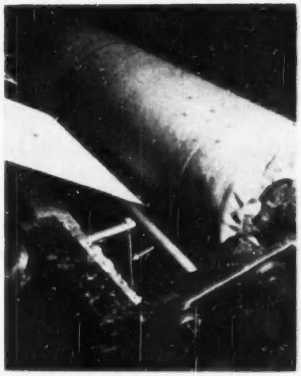
When a thermometer is employed as a size level controller, it is, of course, vital that the temperature-sensitive bulb be installed at the level where it is desirable to maintain the size. If the temperature of fresh size entering the size box is below that of the solution already in the box, it is important that the fresh size be admitted as far as possible from the bulb, otherwise the relatively cool size striking the bulb can cause the controller to act as though the level in the box was low. In extreme cases, this can result in an overflowing size box.

Periodic inspection and cleaning of the temperature-sensitive bulb is also important, since a coating of size acts as a heat insulating medium and will cause sluggish or erratic operation of the controller.

Air Conditioning Instrumentation. In general, installation and maintenance of air conditioning instrumentation differs little from other instrumentation throughout the mill. Possibly the most significant exception to this general rule is the problem of keeping lint from collecting on the moisture-sensitive elements of relative humidity controllers. This is best accomplished by mounting the element inside of a container which provides some means of circulating a continuous flow of clean lint-free air. Such a device is illustrated in Fig. 14. The aspirator box consists of a box which is airtight except for inlet and discharge outlets. A gasketted door permits changes to be made in the controller settings.

The box shown contains both a temperature and a humidity sensing element. A small motor-driven blower pulls a continuous sample of air in through a filter, passes it over the sensing elements and then discharges it from the box.

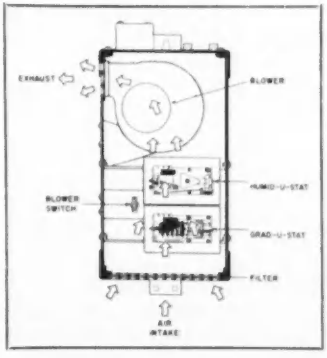
The inlet filter is replaceable and effectively prevents any lint from depositing on and insulating the moisture-sensitive element. In addition to protecting the moisture-sensitive element, the use of such a device increases the speed of response of the humidity controller since it keeps a continuous sample of the conditioned air moving over the controller element.



This is a good location for size level electrodes. They should be placed where size does not splash on them from the ends of rolls or other possible sources of size accumulation.

Effect of Condensation During Week-end Shutdowns. When mill temperatures are lowered during week-end shutdowns, a certain amount of condensation will take place within the instruments. This condensation will not cause any trouble as long as a periodic cleaning and lubricating program is in effect. Failure to adhere to such a program, however, will undoubtedly increase maintenance and shorten service life because of rusting and corroding of metal parts.

Fig. 14. Cut-away view of aspirator box, showing location of circulating fan and temperature and humidity measuring elements.



Organization of Maintenance Program. The size and scope of the instrument maintenance program for any given mill will depend upon the size of the mill, the number of industrial instruments employed, and the facilities available.

Centralized Maintenance Work. Some of the larger mills find it best to centralize their maintenance work. In one mill, for example, a completely equipped instrument department is responsible for the service and repair of every instrument in the mill. Each instrument is recorded by serial number, and a complete record kept of inspections, cleanings, lubrications, adjustments, and any other kind of maintenance work performed.

Periodic maintenance as well as calls for emergency service are all handled by centrally located trained instrument technicians. A rule that no mill personnel other than those working out of the instrument department will tamper with any instruments or controls is strictly enforced.

Spare thermal systems and control valves are carried in stock. When a control valve requires servicing, it is pulled out of the flow line, a spare valve substituted, and the other valve moved to the instrument shop for reservicing. In this way, instrument down-time and consequently process shutdowns are held to a minimum.

One man working out of the instrument department has as his sole responsibility the job of changing charts and inking pens. He makes any required identifying notations on all charts removed and sees that they are either properly filed or routed to the correct departments. Instrument technicians are specially trained and have attended the schools conducted by the manufacturers of the instruments employed in the mill.

All installation and maintenance instructions in the form of booklets, bulletins and pamphlets supplied with the instruments, are kept in an indexed file and are readily available to maintenance personnel. This mill seldom finds

it necessary to take advantage of the service facilities offered by the instrument manufacturers.

Maintenance Department Can Be Effective. There are many mills whose size would not justify an elaborate set up. Even in the smallest mill, however, where only one man is available for instrument maintenance, proper organization will result in efficient instrument operation.

The following are some of the points to be considered in setting up an adequate maintenance program:

(1) **Place Complete Responsibility on Single Individual.** Whether one or ten maintenance personnel are employed, make one individual responsible for all instrument installation, inspection, and maintenance work. Once this responsibility has been fixed, insist that no personnel other than this individual or men directly responsible to him tamper with the instruments. It is useless to place the responsibility upon one individual if other mill personnel are permitted to upset the calibration or control settings of the equipment.

(2) **Educate the Responsible Individual.** The man responsible for instrument maintenance should be given every opportunity to educate himself in the operating principles and mechanical design of all mill instruments. All installation and instruction booklets and pamphlets supplied with the instruments should be turned over to him. He should, whenever possible, be encouraged to attend training courses offered by instrument manufacturers.

(3) **Adhere Rigidly to Scheduled Periodic Inspections and Lubrications.** Once an inspection and lubrication schedule has been set up, see that it is followed faithfully. Preventive maintenance is as important to industrial instruments as it is to other pieces of mechanical equipment, and periodic inspections often reveal the approaching need for maintenance work which can then be planned for some time when the process or equipment will be shut down. In many cases, this advance notice of part failure has permitted quick replacement and prevented costly process shutdowns. Periodic cleaning and lubrication are especially important in a textile mill where the high relative humidity is conducive to rusting and corrosion of metal parts.

(4) **Keep Performance Records of All Instruments.** Proper maintenance is greatly facilitated by a systematic method of record keeping. Each instrument should be listed on a separate sheet or chart which should contain the type, serial number, make, etc. The chart should also provide space for a listing of the dates of periodic inspections and lubrications, and for brief descriptions of any maintenance work performed on the instrument.

(5) **Do Not Hesitate to Utilize Services of Instrument Engineers.** In many instances, problems will arise which are beyond the scope of knowledge of mill maintenance personnel. In such cases, full use should be made of the services of the highly trained instrument engineers provided by the instrument manufacturers. For the very small mill which can not afford to assign a man exclusively to instrument maintenance, instrument manufacturers offer a plan of periodic service whereby trained service engineers inspect and perform routine maintenance on all mill instruments.

(6) **Adequate Stock of Spare Parts Guards Against Instrument Down Time.** The number of spare parts which should be carried in mill stock will depend on the number and types of instruments employed. In any event, an adequate supply of pens, ink, and charts should always be on hand. When a thermometer is measuring or controlling a critical process temperature, a spare thermal system is an excellent investment. The availability of a spare thermal system can mean the difference between hours and weeks of instrument down time in the event of damage to the bulb or capillary tubing. When electrical temperature measuring instruments are used, it is advisable to stock a few temperature-sensitive elements, i.e., thermocouples or resistance thermometer bulbs, and, in the case of the former, some extra extension wire. If the instruments are of the electronic type, spare tubes should be carried.

Well Planned Maintenance Program Important. In summation, if any individual factors are to be singled out as exercising the greatest effect on continuous trouble-free instrument operation, they may well be: first, a well planned maintenance program which will include installation, periodic inspection and lubrication, and replacement of worn or damaged parts; and secondly, undivided responsibility for instrument maintenance placed on one individual with the clear understanding that under no circumstances will unauthorized personnel be allowed to tamper with the instruments.

With these two conditions fulfilled, it is fairly safe to assume that most of the steps previously discussed will be carried out and that maximum utilization of industrial instrumentation will be achieved.

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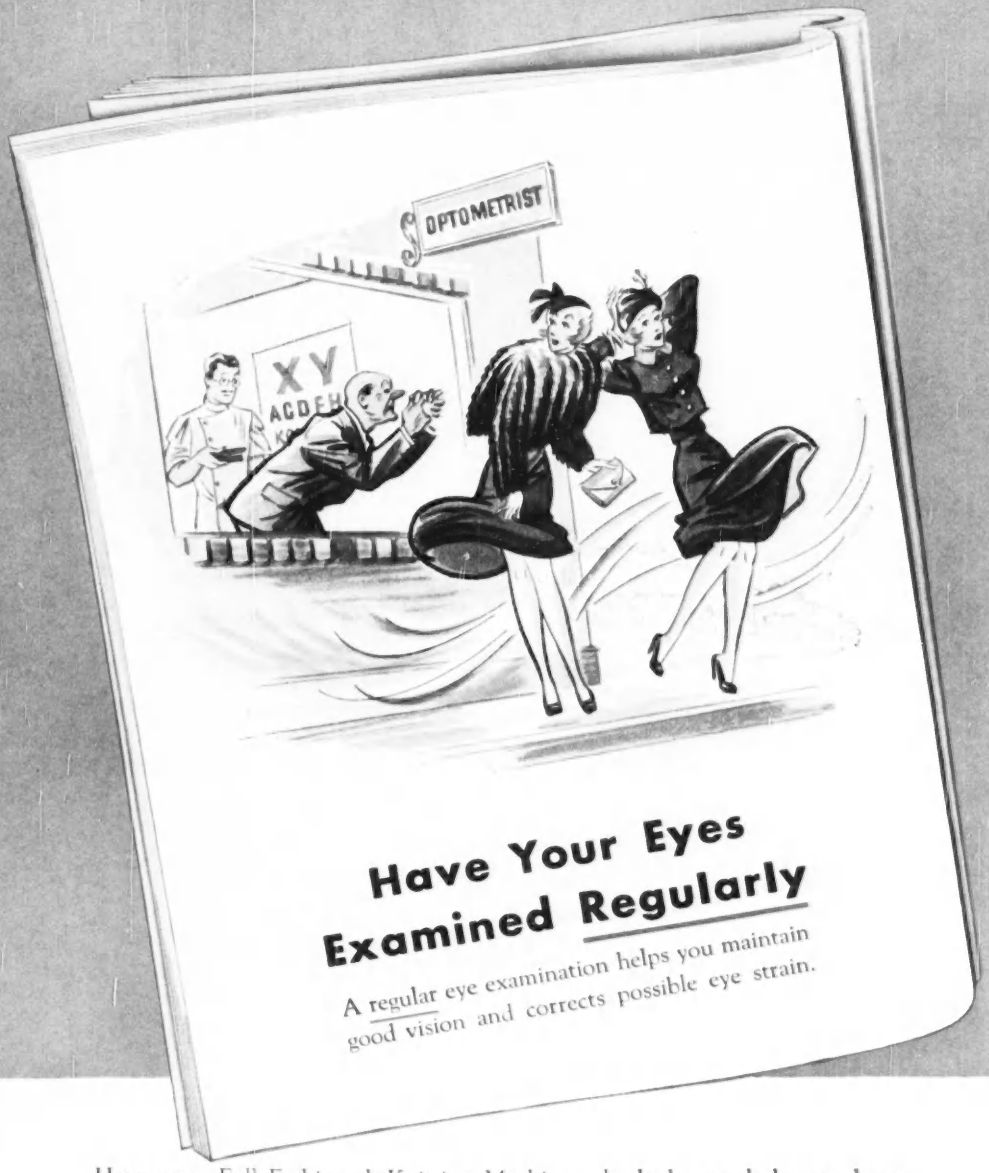

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SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

No More Dozens!

By Jos. D. Boyd
Personnel Director
Melrose Hosiery Mills, Inc.

EXCLUSIVE

Counting hosiery by pairs provides perpetual inventory and simplification of paper work.

COUNTING hosiery production in terms of "dozens" has been traditional in the hosiery industry. The Melrose Hosiery Mills, Inc., of High Point, North Carolina, has abandoned the practice of counting "dozens" in all production processes and changed to a system of counting hosiery by pairs.

Records Studied. The change in methods and terminology is the result of a study made by management engineering service of Remington Rand, Inc. The flow of goods was analyzed from receipt of the finishing room order from the mill to completion of the billing operation. The purpose of the study was to furnish the sales manager with sufficient information and tools to perform his function and report unfilled orders, orders placed, and orders shipped. Simplification of processing papers through the office was also an objective of the study.

The study involved a comprehensive investigation of filing systems and all records. All procedures were surveyed with the objective of reducing the time required to process orders in giving improved service to customers. Recommendations were made to eliminate certain practices, to reduce the amount of time consumed, and to reduce the number of steps in handling records. A recommendation was made to change the unit of measuring inventory and production from dozens to pairs to insure maximum numerical accuracy and to convert plant records accordingly.

The result of the survey has meant the installation of a Production Planning Department that will permit more and better use of the IBM equipment in acquiring

MELROSE HOSIERY MILLS, INC.

CONVERSION TABLE - DOZENS TO PAIRS

DOZ.	PRS.	DOZ.	PRS.	DOZ.	PRS.	DOZ.	PRS.	DOZ.	PRS.
1	12	11	132	21	252	31	372	41	492
2	24	12	144	22	264	32	384	42	504
3	36	13	156	23	276	33	396	43	516
4	48	14	168	24	288	34	408	44	528
5	60	15	180	25	300	35	420	45	540
6	72	16	192	26	312	36	432	46	552
7	84	17	204	27	324	37	444	47	564
8	96	18	216	28	336	38	456	48	576
9	108	19	228	29	348	39	468	49	588
10	120	20	240	30	360	40	480	50	600

The above table is to be used in converting all existing records in the plant from DOZENS to PAIRS.

EXAMPLES:

17 dozen = 204 pairs

Add odd pairs to dozens as follows:

17½ dozen = 204 + 6 or 210 pairs

17 dozen and 9 pairs = 204 + 9 or 213 prs.

MELROSE HOSIERY MILLS, INC.

COUNTING CHART

1	Bundle = 20 Pairs	1	Bundle + 1 Pair	=	21 Pairs
2	Bundles = 40 Pairs	1	Bundle + 2 Pairs	=	22 Pairs
3	Bundles = 60 Pairs	1	Bundle + 3 Pairs	=	23 Pairs
4	Bundles = 80 Pairs	1	Bundle + 4 Pairs	=	24 Pairs
5	Bundles = 100 Pairs	1	Bundle + 5 Pairs	=	25 Pairs
6	Bundles = 120 Pairs	1	Bundle + 6 Pairs	=	26 Pairs
7	Bundles = 140 Pairs	1	Bundle + 7 Pairs	=	27 Pairs
8	Bundles = 160 Pairs	1	Bundle + 8 Pairs	=	28 Pairs
9	Bundles = 180 Pairs	1	Bundle + 9 Pairs	=	29 Pairs
10	Bundles = 200 Pairs	1	Bundle + 10 Pairs	=	30 Pairs
11	Bundles = 220 Pairs	1	Bundle + 11 Pairs	=	31 Pairs
12	Bundles = 240 Pairs	1	Bundle + 12 Pairs	=	32 Pairs
13	Bundles = 260 Pairs	1	Bundle + 13 Pairs	=	33 Pairs
14	Bundles = 280 Pairs	1	Bundle + 14 Pairs	=	34 Pairs
15	Bundles = 300 Pairs	1	Bundle + 15 Pairs	=	35 Pairs
16	Bundles = 320 Pairs	1	Bundle + 16 Pairs	=	36 Pairs
17	Bundles = 340 Pairs	1	Bundle + 17 Pairs	=	37 Pairs
18	Bundles = 360 Pairs	1	Bundle + 18 Pairs	=	38 Pairs
19	Bundles = 380 Pairs	1	Bundle + 19 Pairs	=	39 Pairs
20	Bundles = 400 Pairs				

sales data and scheduling production.

Employee Motivation. Careful plans were made well in advance to be sure the operatives were properly initiated before any changes were made. The mill house organ carried the following statement:

"For more than a year we have discussed the relation of getting orders to steady employment. We demonstrated that improved quality and lowered cost could place Melrose in a position to get more business. Most of us understand that lack of orders means lack of employment. The other side of that truth is that getting orders, and getting them out on time, means more work for everybody.

"This simple relationship is now apparent to most Melrose people. We have all helped to do the best we could to assist, but—because of the highly competitive market—our best is not enough. We have made progress. We are convinced that we are on the right track. But we need outside assistance to modernize our way of doing things. Remington Rand record specialists have worked for weeks on every detail of handling goods.

"One of the first things that showed up in the survey was that we were 'missing out' because records are not accurate in detail. Accuracy is important with many styles, large color lines and varied sizes. We were counting everything in dozens, or allowing loose calculations for broken dozens.

"There is nothing 'sacred' about the idea of dozens. It is merely a practice that has grown up with the hosiery industry. It is utterly impossible to keep inventory records accurate in terms of full dozens. The existence of partial or broken dozens in the mills have thrown off the records. Broken dozens of certain styles or colors pile up in one place and are needed in some other place.

SO . . . . . .

"In the interest of accuracy, it is proposed that we all drop the idea of dozens out of our minds. We shall count by pairs, and handle bundles of twenties . . . twenty pairs. Broken bundles will be a specific number of pairs. No more dozens!"

It will be noted that words like "expert" and "efficiency" were carefully avoided. Further, it was pointed out that the change did not mean altering the rates of pay; that it did not have a hidden purpose leading to a speed up, or harsh checking up on work. The announcement plainly and firmly stated that the change had to do solely with inventory and records —which was true.

All supervisors were impressed from the start with the value of expressing appreciation to employees interested in discussing the plan. Every suitable occasion was used to the utmost with deliberate intent to commend and praise operatives who were inclined to discuss details of the plan. In a statement posted on all bulletin boards the president of the company set forth that it made him feel good to know that there is associated with the company such a fine spirited body of people. Employee cooperation was immediate and good. Some details required negotiation with the union, but all operators agreed to write up pairs in good faith.

What It Means. The purpose of the plan is to eliminate inventory discrepancies to a level heretofore impractical. It was found that there was a high percentage of error in counting fractional dozens. In fact, the error was often in NOT counting the fractional dozens. These errors were cumulative and getting worse. When production is counted in terms of pairs, there are no fractions to count or cast out, and posting the records is done directly in terms of pairs.

The actual count of pairs of socks is known in all departments at all times; in other words a perpetual inventory is kept. The rec-

ords show what goods are actually in stock, and salesmen know when goods are available.

Many operations have been made simpler and easier to perform. For instance, there is less tying in the knitting rooms. Sixty pairs of socks are tied into three bundles instead of five. Calculations are simpler in that it is easier to multiply any number by 10 than it is to multiply by 12. The change has simplified handling and the flow of goods through the mills.

To simplify the change as much as possible, conversion charts (see illustrations) were made available to operators where the need existed.

All lots of goods are now uniform; whereas formerly some lots contained 25 dozens and other lots contained 50 dozens segregated by style and weight of goods; now all lots contain 400 pairs or 20 bundles of 20 each.

Billing is now simplified in filling orders. If a customer should ask for 5 dozens, size 10, two styles, six colors, and five pairs of each, the order is easier to fill and record.

It is too early to determine the benefits of the changeover, but there are indications that the advantages will be considerable. It may take months to determine the true value of the change.

In the end, the customer is "boss." The announced purpose of the mill is to make improvements in getting orders out on time. The motive behind the move to streamline methods of counting socks by pairs is to give the best service to the customer that modern methods will permit.

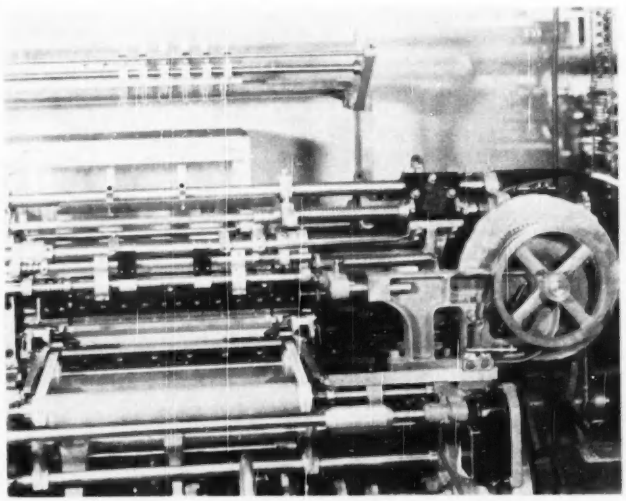
Advantages of Changing Counting Methods

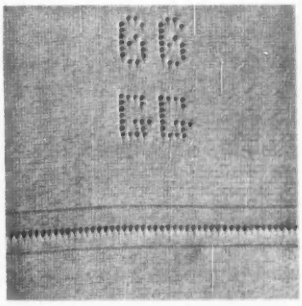
1. **Actual count of pairs of socks will be known in all departments at all times. There will be a "perpetual inventory."**
2. **Operations made easier in that there will be less tying.**
3. **Counting and calculating will be easier. It is easier to multiply any number by 10 than it is to multiply by 12.**
4. **Terminology is simplified by omitting reference to "25 dozens"; instead, an operator will say "300 pairs."**
5. **Accurate knowledge of stock on hand will permit quicker shipment and therefore more work.**

Gauge Perforating Attachment on Reiner 66 Gauge Knitter

Previous issues of TEXTILE INDUSTRIES (August, 1949, page 143 and October, 1949, page 209) have presented design and construction information as well as details regarding the operation of the Reiner four-section 66 gauge full-fashioned knitting machine.

An interesting feature of the machine is the gauge perforating attachment, close-up of which is shown here. Note the gauge number plainly perforated in the portion of the stocking top in the accompanying photograph.





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SERVING THE TEXTILE INDUSTRY SINCE 1907

Tool for Removing Verge Collars on Komet Machines

By ERNEST BRIDGES

EXCLUSIVE

Prevents damage to other machine parts. May be made in knitting mill machine shop.

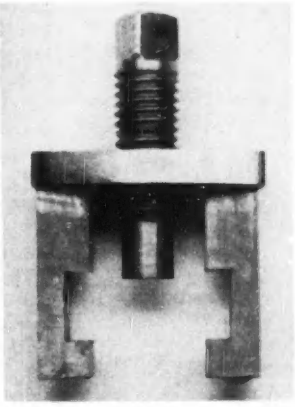
SOONER or later every Komet and Links and Links fixer will find it necessary to remove a verge collar. Frequently, after the verge collar set screws have been loosened, the collars will not come off the verge tube freely.

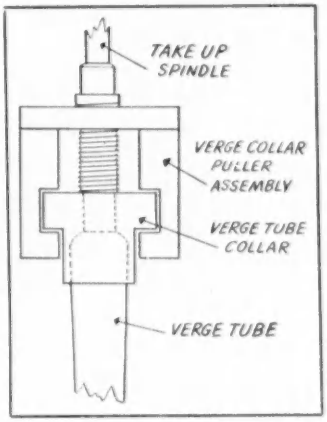
The only way a collar can be removed from the verge tube (with the upper cylinder in the machine) is to pry it off, and in doing this there is danger of pulling the verge tube up and disturbing the set screws in the verge plate. The verge plate set screws are subjected to unnecessary abuse when a collar is pried off.

The device shown in accompanying illustrations permits pulling off a verge tube collar easily and quickly without damage or abuse to any part. Whether or not the upper cylinder is in or out of the machine makes no difference when using this tool.

If the cylinder is in the machine, remove the screw from the puller tool, place the takeup spindle in the screw hole of the puller, and slide down to the collar. Put the collar in the notches, slip the hollow screw over the takeup spindle, and turn the screw into the puller. Keep turning until the collar comes off.

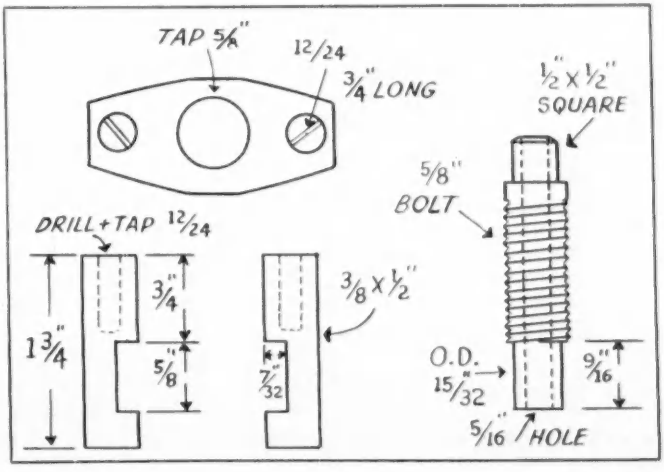
This simple device is made from a 5/8" bolt, two 12/24 flat head screws, and three pieces of cold rolled steel. It is a miniature gear puller designed to do one job easily and quickly. Dimensions of component parts of the tool are shown in the illustration. A sketch of the puller shows the verge tube collar in place.





Left, photo of verge collar puller assembly; right, sketch showing how tool is placed over verge tube collar for easy removal.

Construction details for the puller are given here.



Cut your knitting cost on ELASTIC FABRIC

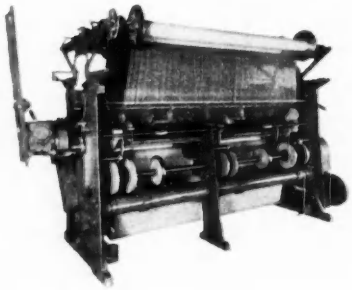
Elastic net for girdles, foundations and brassieres knit on the *Kidde* Knitter is creating a sensation in the market today. The quality is outstanding —the production rate exceptionally fast.

New high speeds are being maintained with exceptional efficiency on the *Kidde* Knitter—because it is ruggedly built to absorb the strains of elastic. The power let-down for controlling the rubber beams is non-electric, reliable in action. The needle bar motion is specially designed for high speed with heavy loads.

When you use the *Kidde* Knitter, your costs go down on elastic net — and on these other fabrics, too: dress fabrics; veilings and nettings; dishcloth material; curtain fabrics; narrow fabrics; shoe cloth; laundry nets; knitted outerwear fabrics for sweaters and polo shirts.

Cut knitting cost on these fabrics too with a *Kidde* Knitter

ELASTIC FABRICS for corsets, girdles and brassieres, DRESS FABRICS, NETTINGS and VEILINGS, DISHCLOTH MATERIAL, LAUNDRY NETS, CURTAIN FABRICS, NARROW FABRICS, SHOE CLOTH, KNITTED OUTERWEAR FABRICS for sweaters as well as for polo shirts.



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The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

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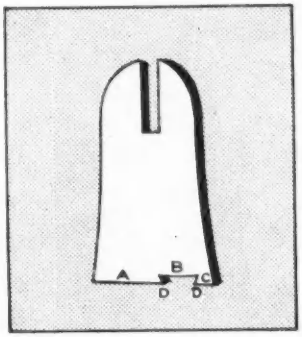
Improved Spade for Double Sole Knitting

EDITOR TEXTILE INDUSTRIES:

The majority of knitting machine fixers have at one time or another had trouble with double sole knitting when skipping and gathering around the seam occurs. Oftentimes the machine will cut out when the spade drops in or when the yarn is being changed.

I tried a new way of cutting the spade (see accompanying illustration) to eliminate most of these troubles. As shown in the sketch, the surface at A should be straight, and the surface at B should be slightly beveled, but the low part should not come down to the level of A. The small projection can be slightly lower than A.



There seems to be some advantage in having the projection approximately 1/32-inch lower when the yarn rolls across the opening at B.

Both corners at D should be tapered inward, but not too much because there is a tendency to bind the yarn, thus restricting free movement. The bevel should not be too great on B, or it will not move free enough while the finger is agitated in knitting.

The surfaces of A and B should be polished so that there is no possibility of any rough places. The two corners at D must be very smooth, and the edges must be straight and not too deep.

The entire spade face should be hardened, and it should be adjusted to the requirements on each individual machine. This spade has given us very satisfactory results and is considered much better than the old spade.

CONTRIBUTOR No. 8111

Analysis of a Japanese Sock Provided for a Reader

A READER of this magazine recently submitted a sample Japanese sock, requesting information as to the cause of the poor linking. Although the following explanation passed along to this man will not be of interest to all of our knitting readers, it does demonstrate the type of service that is rendered by this magazine. Knitting men, seamless or full-fashioned, are invited to submit problems as they arise.

EDITOR TEXTILE INDUSTRIES:

This has reference to the sample of Jap sock. First, it is looping, not linking. There are a number of reasons responsible for the crummy appearance of the sock. I am sure the toe was made of single carded yarn of poor quality.

The fabric looks as though the yarn were heavy for the diameter, gauge, and number of needles in the machine. The looping line has all the earmarks of being looped on a machine which had too many points per inch for the number of knitting needles. By that I mean it was, perhaps, looped on a 22 point machine and should have been looped on a 20 point looper. This practice is not uncommon and causes crowding of fabric on the points, and makes it look like a sewing job instead of looping.

The trimmer knives, which cut away the surplus fabric, should leave but *one* course of stitches on the looper points. This machine left two courses in part of the looper line, causing the bulky ridge instead of a flat seam.

The trimmer knives were set too high, the tension on the looper hook yarn was insufficient, and the tension on looper needle was excessive. Last but not least, the operator who looped this sock failed to follow the looper line (if the sock had one, which I doubt), and also failed to turn the corners properly.

The term "turning corners" would be Greek to anyone except a person who understands looping machines and the looping operation.

CONTRIBUTOR No. 7882

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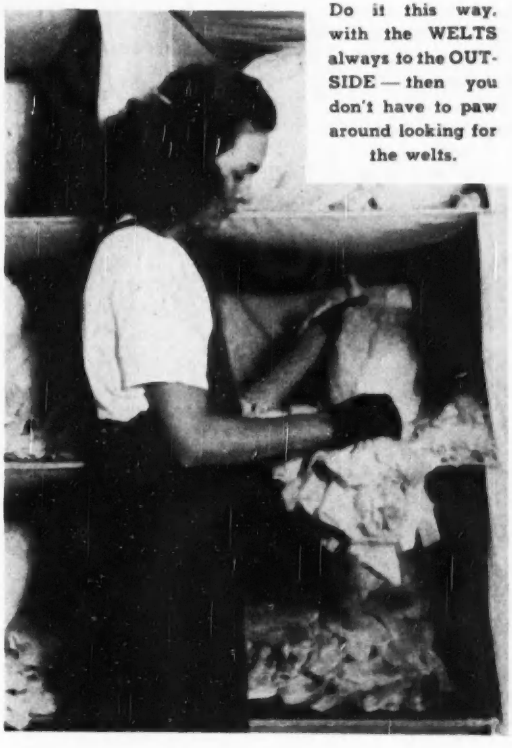
SK-129

See Supreme's Stripers and Underwear Knitters at Booth 81, Knitting And Allied Crafts Exposition, 34th Street and Park Ave., New York City, April 24-28, 1950.

Knitter Hints No. 29

Tip on Handling Hosiery

Never cram hose into a bin this way —the chances are that you will cause "pull threads."



Do it this way, with the WELTS always to the OUTSIDE — then you don't have to paw around looking for the welts.

This Knitter Hint appears through the cooperation of Charles O. Simms.

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. . . a direct dyeing acetate color, suitable for shading and the production of a wide range of pastel shades of pink, lilac and lavender on acetate rayon and nylon.

Celanthrene Fast Pink 3B is recommended for use on fabrics which must withstand light and laundering. Fastness to crocking, hot moist pressing, perspiration, dry cleaning and sublimation is very good. Light fastness on nylon is superior to that of most acetate dyes on nylon.

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Improved Sweater Buying Reported

Orders for spring business in retail stores for outerwear and swimsuits are said to have become more frequent.

In certain quarters this appears to be unexpected. Some manufacturers and wholesale houses figured that for a while longer retail merchandisers would mark time.

This view was based partly (as to heavyweight knitted items) on the fact that in some sections of the country, until recently, weather has remained unseasonably mild. A checkup of orders placed since January 1, however, is said to show a nominal increase over the like period last year.

Part of this situation, of course, can be traced to buying of retailers who especially cater to resort business, both winter and summer. "Excellent" orders for resort swimsuits, for example, are reported by some manufacturers and selling agents.

In some instances, buyers have tentatively gone in for extreme styling. This is explained as being somewhat due to swimsuit traffic during the last season having been very satisfactory to retailers in some localities.

In such areas, it is asserted, stocks were mostly cleared out during 1949. Merchandise executives, accordingly, can plan for this year's traffic with a "clean slate." It also is indicated retailers found ample profit from this department.

The "top" management in some of the larger department stores, it is related, liked the 1949 knitwear showing well enough to tell department heads that they can indulge in some "style risks," if they make it safe. In women's sweater lines, most of the late activity is stated to center in fancy and novelty items, in T-shirts, etc., and resort business has exceeded that done a year ago. Cashmeres also have moved well. Thus far, it is conceded, the advance buying has remained conservative in some quarters, but with leading retail outfits making a strong promotional drive for early spring fashion business in women's apparel of all descriptions, general buying among the trade may develop more rapidly this year.

Nylon Hosiery Use Below Potential

Hosiery wholesalers recently were told by a recognized expert that, so far, the potential market for women's nylon stockings has barely been tapped. This expert is a spokesman for the Du Pont Co., but he included his own organization when he stated that it is the job of every factor in the line from knitter to retailer to extend themselves to capture a proper share of the hosiery business.

This spokesman admitted that nylon yarn output is now 300 per cent more than it was at end of the war. However, this increase isn't enough, and yarn allocations had to be made for hosiery purposes; but it is believed the latest Du Pont expansion program will be completed before end of 1950, resulting in enough nylon yarn for all stocking mills.

Statistically, it was stated, current distribution of nylon hosiery materials allows only ten pairs of stockings per year per woman. In department store and other studies made in 1949, it was shown that women could easily use several more pairs per year—when and if available readily, and at the right prices. To aid in this outcome, it was stated, the Du Pont Co. now is preparing an educational campaign directed to the consumers, on the subject of deniers—what they signify. This technical term, it was said, still seems to puzzle many women, who have been accustomed to buying stockings in terms of two or three threads.

It was added that this situation, with many hosiery mills unable to furnish all the production they can sell at present, should be a challenge at each group in the industry to engage in both independent and cooperative action, to aid in expanding retail hosiery consumption. It was asserted that in such a program the wholesaler of women's hosiery should not be ignored, and this spokesman for a concern often cited as representing "big industry" explained the considerable degree in which the Du Pont organization relies on wholesalers' support, though the latter usually are regarded as "small business."

Spinners to Work Only for Use

Insofar as they are able to arrange their own affairs, the majority of sale yarn spinners—while preserving a competitive position beyond question under the "anti-trust" federal statutes—during 1950 will operate only where their yarn actually is in demand. It is indicated that there is no present intention among spinners to revert to their prewar practice of carrying regularly a certain quantity of stock yarns.

Beyond this, spinning mills that serve the various markets with sale yarn are credited with having worked out last year methods of adjusting their operations so as to economize on time and labor. In short, their salient cost factor has been rationalized to a great extent, and numerous yarn sources now are said to be prepared to stand on this costing basis in the future. It remains that some yarn mills are in better position than others to confront a term of stiff competition. But the point is urged that, taking the yarn industry as a whole, last year witnessed

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a "house cleaning" of antiquated methods.

Cotton sale yarn distributors are said to have matched this performance by cutting out unprofitable selling connections. Some market houses took steps to acquire a financial interest in the yarn mills which supply their needs. The roster of yarn salesmen was trimmed down materially during the latter part of 1949. Market houses are now working in closer harmony with the spinners, and direct-selling yarn mills have contrived to be in closer touch with their customers.

AN EYE ON THE KNITTING MILLS

Stamford (Conn.) Knitting Mills, Inc., has been organized to operate a mill with Jacob Ber as president.

Arrangements have been made for the purchase of the mill formerly occupied by Morris Hosiery Mills, Denton, N. C., by Philip and Howard Barusch, officials of **Hoburt Hosiery Corp.,** 320 Fifth Ave., New York, N. Y. Early operation of the branch mill is planned.

About $4,000,000 has been authorized by the Hosiery Division of **Burlington Mills Corp.,** Greensboro, N. C., for expansion and modernization of the mills manufacturing women's hosiery. The money will be used both for building extensions and new machinery.

Roy Ayscue, Jr., and Coy Beckwith, are principal incorporators of **Softspun Knitting Mills, Inc.,** which will operate a hosiery mill in Henderson, N. C.

The controlling interest in **Sanford (N. C.) Hosiery Mills, Inc.,** has been purchased by Richard Warner and Egon Love of **Viking Hosiery Co., Inc.,** 350 Fifth Ave., New York, N. Y. Women's full-fashioned hosiery will be manufactured for the requirements of the Viking Company.

A one-story addition to its plant is being constructed by **Wee-Sox Hosiery Mills,** Randleman, N. C., manufacturers of infants' hosiery.

A 50% increase in floor space will be accomplished by the one-story addition to **Bland (Va.) Hosiery Mills, Inc.,** which is planned for early erection.

A one-story building at Bantam, Conn., has been taken over by **Trico Fabric Co.,** 1441 Broadway, New York, N. Y., for the manufacture of nylon cloth products.

Early operation of a mill for manufacture of knit fabrics is planned by the recently chartered **Howard Knit Products, Inc.,** Bessemer City, N. C. The new company is headed by Carl Howard and Benjamin Byers.

Don Corp., Graham, N. C., has been chartered with capital of $100,000 for the manufacture of hosiery. Principal incorporators are Don Scott, Sr. and Jr.

As part of a general expansion and modernization program, **Prestige, Inc.,** Pottstown, Pa., women's hosiery, has started on the construction of an addition to the mill, which will provide approximately 7000 additional square feet of floor space.

Allsheer Hosiery Mills, Inc., Liberty, N. C., was recently chartered for the operation of a mill to manufacture women's 60 gauge hosiery. W. Donald Watkins is president and treasurer of the new firm. W. Vernon Jones is vice-president and secretary. Both men were formerly with the Liberty Hosiery Mills, Inc.

Franklin R. Polin, president of **Mammoth Hosiery Mills, Inc.,** has announced the removal of the firm's manufacturing operation from North Wales, Pa., to Iuka, Miss. The executive offices will henceforth be located at 426 East Westmoreland Street, Philadelphia, Pa.

A. and H. Josephs, Chicago, Ill., has plans for a one-story knitting mill in Phenix City, Ala., to be given over to the manufacture of a line of women's full-fashioned hosiery. The cost is reported to be close to $75,000.

Clip-Matic thread trimmer for finished garments (CRA).

Automatic Thread Trimmer

The Clip-Matic thread trimmer spots the threads and loose ends on finished garments, snips them off and deposits them in a waste disposal box by means of a suction trimmerhead.

In order to eliminate the possibility of snagging light-weight and flimsy fabrics, the Clip-Matic machine is equipped with a "suction adjustment regulator" that varies the force of suction to the different weights and thicknesses of fabrics. The Clip-Matic operates from any standard electrical outlet, and requires no special wiring or hookup. It contains a ½ hp motor, for 110 or 220 volts, a-c or d-c as required.

Advantages cited include: open table construction for maximum leg room for the operator; stationary or movable cutting action; all working parts of the trimmer are readily accessible for easy and economical maintenance.

The waste disposal container is equipped with a glass face so that the operator tells at a glance when it needs emptying.

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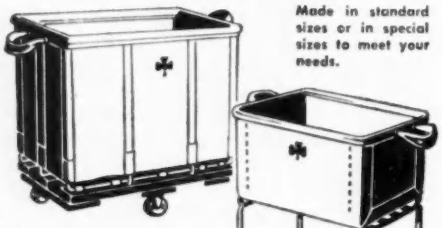

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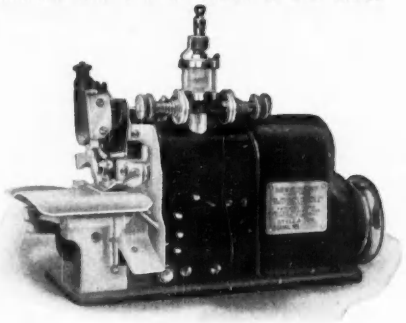

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Prices, Output Not Easy to Gauge

During last half of 1949 knitwear and many other producers of consumers goods kept their manufacturing operations carefully in check, primarily to avoid overproduction at a time when buyers needed merchandise. This brought out complaints from belated wholesale and retail buyers, to the general effect that the manufacturers seemed to be trying to get higher prices through an appearance of scarcity.

In extreme cases, retail merchandisers even hinted at collusion among the mills in this direction. All this is likely to be gone through again during 1950, according to ebb and flow of retail business, observers state.

Most manufacturers thoroughly understand the retailers' technique, and a good many pay no attention to it because they turn out regularly a product which stands on its own merits and is carefully designed and priced to meet consumer preferences. However, there are in the knitwear field quite a number of the smaller concerns who easily can be bluffed by some of their better accounts, and presently they are under pressure for concessions.

For the benefit of these it can be stated that, on the authority of Government analysts, at no time since the war ended have manufacturers of knitted products ever attempted to curtail operations in order to boost their selling prices. This applies, it is asserted, not only to the industry as a whole, but goes so far that no single manufacturer has gone in for such a technique.

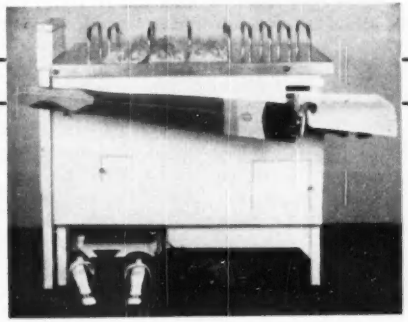
In the present stage of U. S. economy, it is cited, manufacturers' decisions as to pricing and production have to be conditioned to what is going on around them in the way of general business. It resembles a complicated jig-saw puzzle, into which they must try to fit their activities as advantageously as possible—not alone for themselves, but for the benefit of their customers and the final consumers of the merchandise. It is a difficult problem, but the majority of knitters aim to handle it successfully this year.

Trade Practices To Tighten Up

Many in the knitwear industry and other lines are reported seeking during 1950 to avoid complying with customers' requests for deferment of contract deliveries, by adopting fair trade rules that would forbid such conformance, meanwhile strengthening sellers' protection against cancellations. It is cited that, according to 1949 experiences in this field, customers' pleas for postponement of deliveries often are only a prelude to outright cancellations, which often result in manufacturers permanently losing accounts

COMPLETE INSPECTING STORY

on our 1950 equipment . . .



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they had fostered over a period of years.

Those wishing to avoid such a situation, it is explained, seem likely to place reliance in the future on so-called "codes of ethics," which over a considerable period have been found useful in other textile-garment lines, in discouraging customers from making unfair demands on the manufacturers.

A case in point is the outstanding success of the cotton yarn industry in formulating trading rules many years ago which still are in full force and effect. No buyer now expects to shuffle-off a yarn contract, and all buyers fully recognize that when deliveries against their contracts are deferred for a time, at their insistence, it amounts to a special concession by the individual seller, and in no way legally vitiates the force and effect of the original contract.

Some of the groups of small manufacturers and direct sellers of knitwear and woven merchandise now are described as wishing to place themselves in the firm position already occupied by yarn interests as to inviolability of contracts. They have asked the yarn people to assist them, pointing out that it is to the interest of all concerned, to weed out non-conforming wholesale and retail outlets, which, it is contended, eventually would greatly simplify credit risks in this sector of the textile apparel field.

Natural Textiles Versus Synthetics

After a business trend in one direction has continued a few years, it becomes very difficult to change it. In textiles, the trend from natural fibers in favor of artificial fibers has been under way long enough to make it very expensive for the natural products to get an effective hearing of their claims by the buying public.

It goes without saying that a good many manufacturers of knitwear and other forms of textile-apparel items had their early training in the proper use of natural fibers; but under stress of competition they turned into using synthetics (which surely have their place), and in recent years they have devoted nearly all their attention to the artificial fibers, and until recently have taken little notice of the raw materials furnished by nature itself.

However, in some quarters, second thought has been taken in this respect, that after all, just as there are limits to which the natural materials are restricted, so the usefulness and profit from synthetics also are limited. For example, a novelty fabric made from nylon or rayon or any other of the artificial fibers, often in the last couple of years has been demonstrated to have no more public vogue than like merchandise constructed from natural materials.

During 1949, especially, it was

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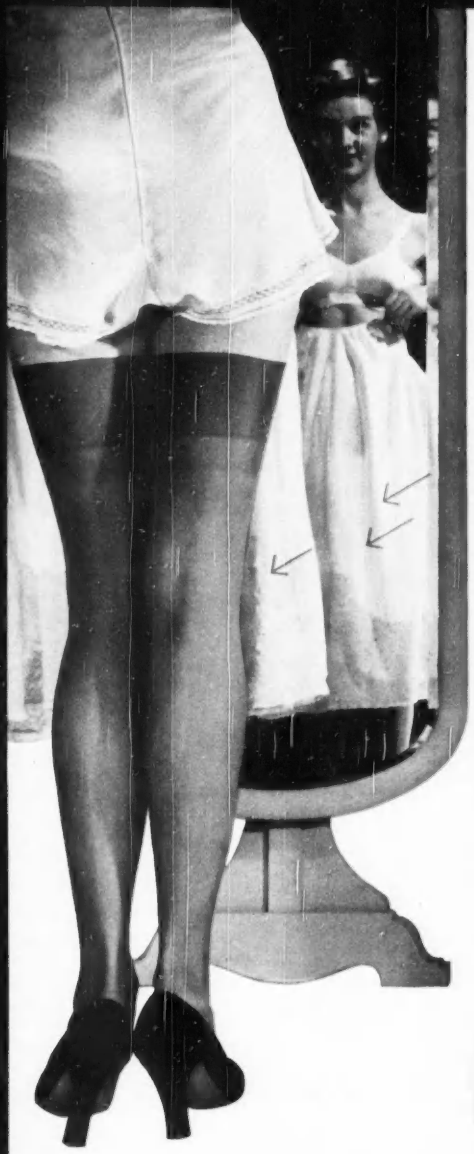

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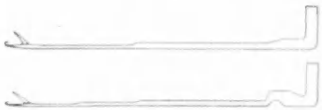

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impressed on large-scale operators in this field that, after all, novelties introduced by them had to reach large-scale retail acceptance quickly or not at all. The mail order people, the buyers for variety chains, and the merchandise executives of the department stores, it is explained, easily can make or break the profitable distribution of any "soft goods" item. Pricing is uppermost with such outlets, it is stated, and their markups rule the buying policies they have to pursue.

Boucle Type Nylon Yarn

Attractive textures for nylon sweaters are made possible by the development of a boucle type yarn of continuous filament nylon. The new yarn, called "Nylo Kle," combines high quality and fine appearance with maximum wear and easy care. Three ends of continuous filament are manipulated with a novelty twist to produce a yarn with small evenly spaced loops.

The yarn has up to now been used in cardigans, slip-overs, and a variety of sleeveless blouses. It gives the finished sweaters a frosty look, suggesting iridescence, and a soft, pebbly hand.

E. I. Du Pont de Nemours & Co., 350 Fifth Ave., New York 1, N. Y.

For additional data request item C-202, using business reply card on page 196.

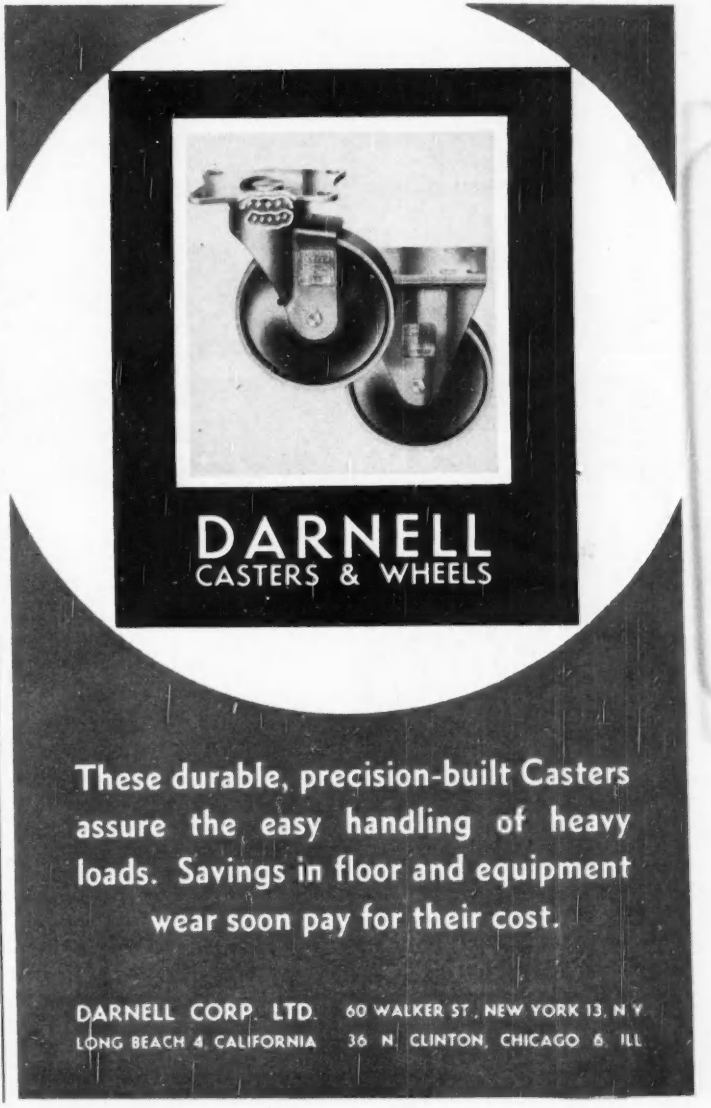
X-Ray Microscope Developed by G. E.

An X-ray microscope, which makes visible internal details of materials through which light cannot pass, has been developed by scientists of the General Electric Company.

Clear, sharp X-ray images, magnified ten times, have been produced in the laboratory, and these images have been magnified ten times further by photographic enlargement without serious loss of detail. Thus, at the present stage of development, magnifications of 100 diameters have been produced.

The microscope operates on the principle that X-rays can be reflected from polished surfaces, as can visible light, provided that they strike the surfaces at very small angles, almost parallel to the surfaces. It consists of an X-ray tube and a pair of curved mirrors, which the X-rays strike at an angle of less than one-half degree, after having passed through the sample. The mirrors acting in a manner like that of a convex lens with a light beam, bend the rays in such a manner as to form a magnified X-ray image of the sample on a photographic film.

The mirrors are platinum-coated slabs of fused quartz, which are as nearly flat as surfaces can be made.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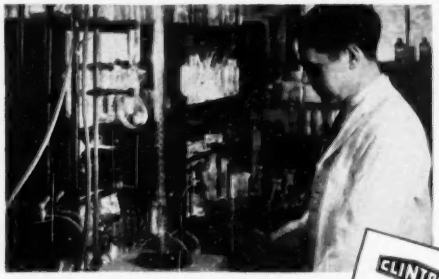
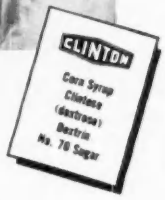
● Clinton Textile Starches are scientifically manufactured and guaranteed for unvarying uniformity. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. Reduce loom stoppage and increase production with Clinton Textile Starches. For years Clinton has been a leader in the production of starches for all textile purposes.

CLINTON



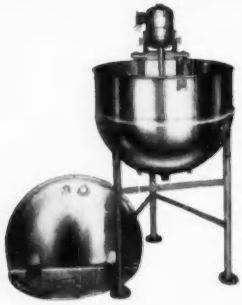
Clinton Textile Starches are under careful laboratory control at all times during the manufacturing process. This insures uniformly high quality in Clinton products.



Clinton Foods Inc.

CLINTON, IOWA

"Standard" STAINLESS STEEL STEAM JACKETED SIZE KETTLES



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Our Standard Stainless Steel Steam Jacketed Size Kettles are made of the highest quality materials obtainable. They are produced in 14 sizes with or without covers.

Our Double Clamp Type Portable Mixers are adjustable to any angle without changing clamp position. They can be furnished with any size or type motor.

For complete details write for descriptive folder

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More Discussion on Calculating Efficiency

Subject Briefed: *This question refers to the article by George E. Tucker, entitled "Industrial Engineering for the Small Plant," May, 1949. The point in question is: with a fatigue allowance of 13% the operator is assumed to be working only 87% of the time; therefore how can the machine tender operate an assignment at 93% efficiency?* (CONTRIBUTOR NO. 8258, *February*, 1949).

EDITOR TEXTILE INDUSTRIES:

The reply to my question confirms the main point in question, in that the author gives an expected machine efficiency of approximately 93%, whereas at the bottom of his sheet, he gives, "87.0% of the time the operator works at the 75-point-hour performance level."

I still would like to know how an operator who works only 87% of her time can keep the spindles running 93% of the time. If she is away from her job 13% of the time, that means that her spindles will be stopped 13% of the time. Of course, it is recognized that when she leaves her job, the spindles will continue to run until the supply of yarn is exhausted or the ends break. However, this gain would be offset by the loss in spindle time when she returns and starts getting the spindles into operation.

I have seen numbers of engineering work sheets, using similar systems to Mr. Tucker's, and in no case have I seen a job where the machine efficiency approaches the percentage of the time the operator is on her job.

CONTRIBUTOR NO. 8258

Editor's Note: In order to be of immediate service to the reader, the foregoing letter was answered prior to publication. The solicited information follows. Other opinions are invited.

EDITOR TEXTILE INDUSTRIES:

It seems that I did not do too good a job of explaining to our friend about the high spindle efficiency we expect (and get). I think possibly, that we are thinking about two different things or our terminology is crossed up.

My use of the term rest and fatigue in connection with the entire 15% allowance is incorrect. Actually this allowance is broken down as follows:

5% personal attention
9% rest and fatigue
1% delays and small miscellaneous elements of work not included as primary elements.

The operator may be away from her job (5%) for the personal attention time and some part of the (9%) rest and fatigue time. She is, however, on the job during the balance of the rest and fatigue time and during the (1%) delay time.

An operator usually follows one of two methods for getting her work done at a good high level of pay. She is away from the job 3% to 7% of the time and is on the job the balance of the time. During the time she is on the job she takes her 9% rest and fatigue time by working slower than the 75-point-hour level or by working above it and stopping for short intervals as she can. It must be noted that no attention time is added into the labor standards and therefore becomes a part of what we are calling rest and fatigue time.

With this and my previous attempt to explain this thing, I have done about all I can in writing. I would like to have our friend drop by some time and I'll do my best to clear up the matter at the

Kink Contest

$ $ Your Idea May Win $100 $ $

This contest ends March 15, 1950

ONE HUNDRED DOLLARS will be awarded for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by March 15.

The contest is open to any reader of this magazine. Contributions eligible for the prize must not have appeared elsewhere.

All material will be paid for at regular space rates upon acceptance irrespective of the contest winner. Advise when submitting entry if participant's name may be used. Only one award will be made in each contest.

Participants are not restricted as to number of items submitted to compete in the contest. Each entry should be described in sufficient detail to make it easily understood, and where possible, glossy photographs or pencil sketches should be included. Finished drawings are not necessary.

All entries for this contest must be postmarked not later than midnight March 15, 1950. Address: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta 5, Georgia.

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Fast, accurate, dependable—is the kind of service offered by our Maintenance and Repair Department. Here, skilled technicians inspect, adjust and repair every instrument in ice is yours—on request or on a periodic use. By loaning you other knotters this serv- schedule.

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AMERICAN TEXTILE MACHINERY EXHIBITION
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GASTONIA TEXTILE SHEET METAL WORKS, INC.
GASTONIA, NORTH CAROLINA
A SHEET METAL WORKS SERVING TEXTILE MILLS

scene of operations. On the other hand, if I am askew, I would like to have him straighten me out.

GEORGE E. TUCKER

Heavy Picker Lap Versus Light Lap

EDITOR TEXTILE INDUSTRIES:

A few weeks ago we decided, on a hunch, to make tests on the Saco-Lowell Lap Meter on some rejected laps. We make lap tests on a regular schedule, usually testing only those laps which weigh inside a tolerance of plus or minus three-quarters of one pound, but not necessarily on the exact standard of 16.25 pounds.

In making the tests on the rejected laps we wanted to find out whether an out-of-tolerance lap was simply light or heavy, or whether such a lap was more uneven than a lap weighing within the correct tolerance.

We selected two laps, one weighing about 1¾ pounds light and one which weighed 1¾ pounds heavy. Perhaps any of your readers who are good carders will not be surprised at the results. The light lap varied all over the chart, but the heavy lap was just as even as our regular laps. The light lap had a coefficient of variation of over 2.00%, and the heavy lap had a coefficient of variation of only about 1.00%.

This caused us to think that perhaps materials, such as picker laps and sliver, with a light "grist" might tend to be more uneven than such materials with a heavy "grist." We discussed this matter with a mill superintendent who had changed his card sliver from around 55 grains to 70 grains and his drawing sliver from about 60 grains to 70 grains. He said that he found the heavier slivers to be more even. He also said that he had tried running picker laps as light as 12 ounces per yard but found them to run very uneven so he changed back to a heavier lap.

So far, we are not sure that we know of a plausible explanation of this condition unless the air currents in the pickers and the cards tend to act differently upon the heavy or light mass of stock passing through the machines.

If any of the readers of the HOW OTHER MEN MANAGE department of TEXTILE INDUSTRIES have had any experience which would tend to throw any light on this question, we should appreciate their comments.

We have found that Lap Meter tests can be very misleading unless the Lap Meter scale is checked and serviced periodically, usually at the same time that the regular lap scale is checked. We weigh our laps before testing and convert this weight into ounces. We then total the yard for yard weight from the Lap Meter chart.

We discard any tests where the variation between the two weights is more than plus or minus five ounces. In fact most of our tests are within a plus or minus of only 2½ ounces. We think this is a very close tolerance inasmuch as the lap is weighed a yard at a time on the Lap Meter while the entire lap is weighed at one time on the regular lap scale.

CONTRIBUTOR No. 8245

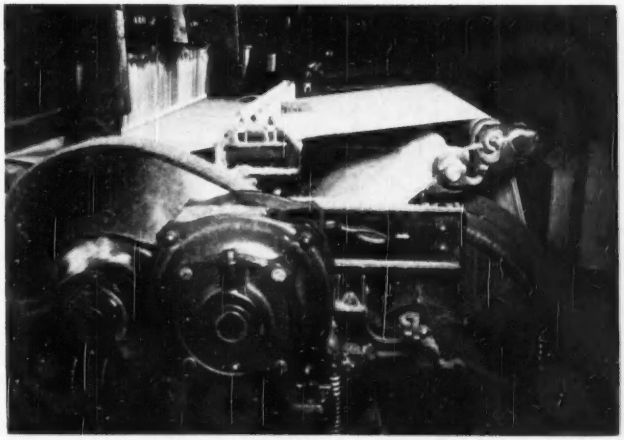
Paper Cover on Beam Prevents Oil Stains

MANY MILLS use some form of protection for warps to prevent oil from splashing off loom parts onto the yarn. Some late model looms are equipped with metal splash guards, but many overseers of weaving supply additional protection to reduce the danger of oil drip and splash from gears and moving loom parts.

On older model looms, some mills have installed metal splash guards made in the mill shop. Aside from splash guards the additional protection is usually a piece of clean cloth installed on the loom in such a way that it covers the warp and drapes almost to the floor between the beam and other parts of the loom.

Some mills are using heavy brown paper to protect warp

Close-up of loom in operation with paper cover installed. The heavy accumulation of lint on the paper would have become tangled in the warp ends if the protective cover were not present.



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Fluted Rolls

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40%

NEW automatic machinery recently installed makes it possible for Southern Spindle and Flyer Co. to manufacture FLUTED ROLLS for spinning and flyer frames at LOWER costs. We pass these savings—up to 40%—on to you.

Compare our prices for all types of NEW fluted rolls with the cost of reworking OLD rolls. You'll be pleasantly surprised at the comparatively small difference in cost.

All of our new fluted rolls are made with screw necks. They're precision made of the highest grade steel and are held to close tolerances. They can be finished also with hard chrome plating.

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These Are Cutting Remarks!

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Every stage of the exclusive Dary Process is similarly quality-controlled under one roof to insure the superiority of Dary Travelers. They are made to wear longer—even at higher spindle speeds.

Get complete information from your nearest Dary representative. He can prove that Dary Ring Travelers *will* improve the quality of your spinning.

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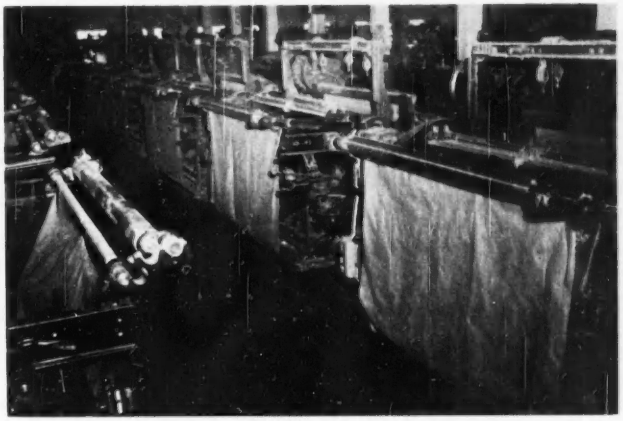
beams from oil spots. The paper cover also prevents heavy accumulations of lint from tangling with the warp yarns, thereby forming bulky places in the yarn which may cause the ends to break when they reach the heddles.

The paper is wrapped around a metal rod in front of whip roll and is draped over new warps. The paper forms a protective shield between the crankshaft, cams, treadle rolls, and other moving parts that may sling oil onto the beam.

One drop of oil on a beam will usually soak through several layers of yarn and cause numerous spots on the woven fabric. Mills using paper instead of cloth in this application claim that the cloth would become soiled after running one warp. In addition to becoming soiled, sometimes an oil spot may soak through the cloth and become smeared on the warp yarns. A heavy grade of brown wrapping paper repels the oil without absorbing it, according to the mills using the paper.



A group of late model looms with warps out. Heavy brown paper has been installed prior to putting in new warps. These looms are equipped with splash guards, but the paper cover serves as additional protection against oil spots and stains on the yarn and fabric.

Mills using the protective shield, in addition to metal splash guards, report a decided reduction in oil spots and soiled fabric. The danger of loom stops, caused by warp ends tangled with lint, is also reduced. Cost of the paper is negligible.

Discussion on Neps in Reprocessed Stock

EDITOR TEXTILE INDUSTRIES:

We should like to know of the experience other mills have had regarding the relation between the number of neps in stock run one time, as compared with stock run containing 5% reprocessed stock. Any information your readers may offer will be greatly appreciated.

CONTRIBUTOR No. 8250

Editor's Note: Prior to publication, several answers to this question were solicited from the mills. The answers are presented here along with the question. Other opinions are invited.

EDITOR TEXTILE INDUSTRIES:

CONTRIBUTOR No. 8250 asks about the relation between the number of neps in running the stock the first time, as compared with running 5% of reprocessed stock. In other words, if a mill mixed 25 bales of cotton and ran it through without adding any waste, he wonders if there would be more or less neps if 5% waste from the pickers, cards, drawing, etc., were added.

During the past two or three years we have counted neps in samples from hundreds of bales of cotton as well as in several hundred specimens of card web. We have examined numerous cards of yarn, comparing them with standard cards furnished by The U. S. Department of Agriculture in cooperation with The American Society for Testing Materials. We have examined neps under a microscope and have read various discussions on the subject.

We understand that the formation of neps is caused from immature fibers. In fact, not long ago we received a rather detailed report on fiber tests made by a well known research organization, and those bales showing the highest percentage of immature fibers also had the highest nep count.

An examination of the waste from any of the machines in opening, picking, and carding processes will reveal a large number of neps, and neps are evident in the finished yarn and cloth. Do the cards make neps as well as take them out, or are they just broken up into smaller neps? Frankly, we do not know the answer. Our study of neps leads us to believe that, on an average, the neps in the raw cotton are larger than the neps which are present in the finished yarn, but we are unable to prove this with any concrete figures.

Some months ago we reduced the amount of waste in our cotton mix, and although we did not make a nep count in the card room, we did make a number of

appearance cards and compared them with similar cards from our regular mix. There was considerable improvement, but this improvement did not amount to a full grade when compared with the standard appearance cards.

The question did not state whether the reprocessed stock would include any card strips. If no strips, fly, or similar waste is being used, then we assume his reprocessed stock includes "setback" laps, lap waste from piecing-up in the card room, and various items of "white" waste from the cards on through the spinning. All of this waste is practically of the same quality as that going into the finished yarn.

It seems reasonable to conclude, therefore, that yarn made from a mix containing reprocessed stock would have more neps than similar yarn made from a mix containing no waste, but that the neps would be smaller, since the second processing would tend to break them up. We will admit that this is only a theory and we may be wrong about it.

Our mill has made a considerable reduction in the nep count in the card web by closer attention to grinding, setting, re-clothing when necessary, and by making the grinders on each shift responsible for a certain number of cards. For example if Section No. 1 consisted of 36 cards, the first shift grinder would grind and set up Nos. 1-18, and the grinder on the second shift would grind and set up Nos. 19-36. (We have no grinding on the third shift.) But even with this arrangement, we still have too many neps!

We have beat about the bush quite a bit and have not given a very good answer to the question, but we are glad to contribute the little information which we do have.

CONTRIBUTOR No. 8122

◆

EDITOR TEXTILE INDUSTRIES:

In answer to CONTRIBUTOR No. 8250, no reliable data are available to us at this time; however, we intend to make some tests to ascertain the number of neps in various manufacturing processes.

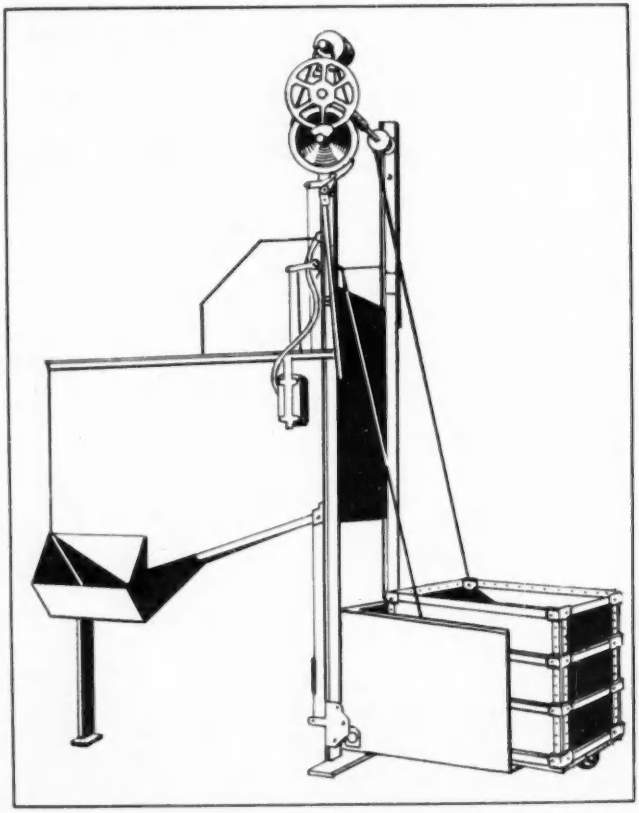
Recently, we double processed a mix through the pickers. That is to say, we ran six bales through the opening and picking processes and then carried the stock back to the feeders and processed it a second time to determine the amount of waste removed on the second process. The nep count was considerably higher on double-processed than on the regular one-process laps. This indicates that the picker and opener equipment made the neps, inasmuch as the stock did not reach the cards.

CONTRIBUTOR No. 8251

Bobbin Handling Simplified by Modifying Winder Hoist

WITH several modifications of the Abbott automatic winder hoist and yarn hopper, a bothersome transfer of bobbins from spinning room doff trucks to the winder lift box can be eliminated. The doff truck, rather than the lift box alone, is elevated and dumped of contents at the winder hopper (see illustration).

This procedure takes but seconds whereas previously many minutes were consumed in lifting bobbins from the doff trucks and loading



the lift box in the usual way.

Bobbins of yarn are wheeled to the winder section from the spinning rooms in doff trucks. The trucks are rolled onto an elevator platform supported by a rigid angle iron frame work which replaces the former lift box assembly. Locked in place with latches, the truck ascends, tilts, and returns to floor level. Then the empty doff truck is rolled back to the spinning room.

Needle Brush Cleans Flats

This item was submitted in a kink contest.

EDITOR TEXTILE INDUSTRIES:

Our method employed to clean card flats seems to be different from the general practice in most mills. Some of your readers may be interested in that we obtain good results in cleaning.

Before grinding the flats, we put a stripping needle brush on the front side of the card; we do this instead of using the four-row circular brush on front of the card. A four-row circular brush is placed over the licker-in. This brush operates in the grinding roll brackets and is driven by a rope pulley on the cylinder shaft.

The needle brush on the front side strips and loosens the tufts and scales, but it does not remove all of the foreign matter. The four-row hair brush finishes the job.

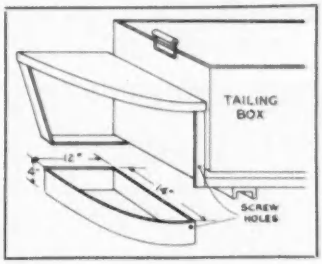
In setting this cleaning apparatus, the needle brush should not be allowed to touch the base of the needles on the flats. The brush needles should be set approximately 1/16" from the base of the wire on flats. The four-row brush is set deep enough to touch the base of the wire on flats in order to clean out the dust and other loose matter. The traverse motion of a grinding roll helps improve the cleaning action.

Some details of the brushes are shown in the accompanying sketches.

CONTRIBUTOR No. 8242
(*Holland*)

"Nuclotex" Patented

An article which appeared on page 167 of the December issue described the "Nuclotex" licker-in for cards. Patents for "Nuclotex" have been applied for under British No. A. 2047/48, and U. S. No. A52009. The "Nuclotex" (registered) system is marketed by Platt Bros. (Sales) Limited, Oldham, and it is manufactured by Platt Bros. & Co. Limited, Oldham, England. This equipment will be shown at the American Textile Machinery Exhibition, May 8-12, Atlantic City, N. J.



Construction details of tray for spooler waste.

Improvised Tray for Spooler Waste

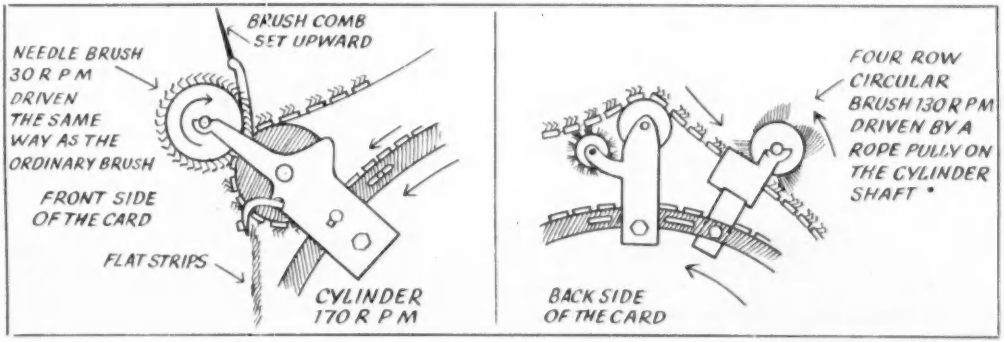
EDITOR TEXTILE INDUSTRIES:

The accompanying sketch shows the details of a metal tray we have made for use by spooler operatives on B-C spoolers. This type of tray serves as a depository for waste that accumulates on the spooler operatives' fingers. The short ends of thread are broken off when the operative places bobbins in the pockets on the machine.

The sketch shows the location of the tray which fastens under the metal table. The table is standard equipment on the machine. This arrangement has stopped our operatives from throwing the waste into the tailing box or on the floor. Construction is simple, and the job can be done in the mill shop at little expense. The tray is a valuable asset in promoting and maintaining good housekeeping.

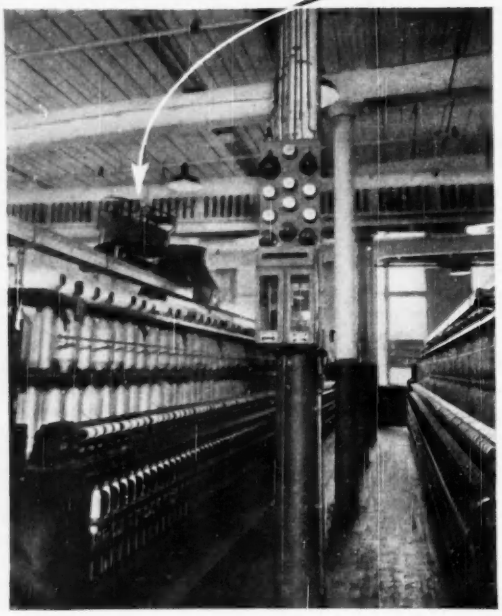
CONTRIBUTOR No. 8207

Sketches showing method employed for cleaning card flats in Dutch mill. Left, front of card; right, back side.


BRUSH COMB SET UPWARD
NEEDLE BRUSH 30 R P M DRIVEN THE SAME WAY AS THE ORDINARY BRUSH
FRONT SIDE OF THE CARD
FLAT STRIPS
CYLINDER 170 R P M
FOUR ROW CIRCULAR BRUSH 130 R P M DRIVEN BY A ROPE PULLY ON THE CYLINDER SHAFT
BACK SIDE OF THE CARD

No Fly on this Ceiling

with ParksTurbo Up-draft Cleaner



Lint, dust and fly not allowed to settle on lights, piping, ceiling and things.

ParksTurbo Up-draft Cleaner

A Paying Addition

This addition to mechanical cleaning rounds out the work of ParksTurbo Traveling Cleaner (CT type, track on frames). *Or may be installed and operated quite independently.*

Up-draft hood rotates as it travels, producing a confined high velocity column of air. This air column, with its constantly changing angle, mushrooms, sweeping surfaces clean and spreading rapidly in all directions. An added and most effective cleaning function without cluttering up the room.

And what a difference
a clean room makes!

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NEW EQUIPMENT
AND MATERIALS

Instrument Checks Yarn During Spinning Process

An instrument for actually measuring the evenness of yarn on the operating spinning frame, has been developed. Designated the Yarn Checker, it is a portable, hand carried and hand operated instrument which is moved from frame to frame and is used to measure the diameter of individual yarns in process.

The instrument is rugged and simple to operate; it has been designed for use in the mill, by mill personnel, and thus does not require trained technicians for its operation, according to the manufacturer.

Photoelectronic principles are employed to measure the diameter of the yarn, by directly registering the amount of light stopped by the material under examination. A large meter, graduated in thousandths of an inch, is located in the inspection head, and records there the average variation in the yarn. The instrument is equipped with a micrometer adjustment for setting the base dimension for any yarn count.

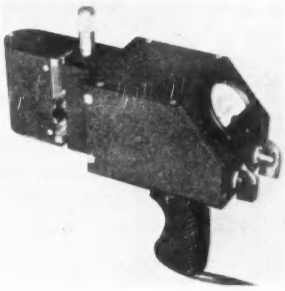
Because the measuring medium is non-contact, there is no disturbance of the material under inspection; no spindle is at any time interrupted; the measurement is made on a moving spinning yarn. In order to make the indications easily understandable a special averaging device has been included which minimizes point-to-point variations and indicates only average values and trends.

Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y.

For additional data, request item C-103, using business reply card on page 196.

Above. Standard Electronics' Yarn Checker being used to test yarn while it is being spun.

Below, close-up of instrument.



Absorbent Dehumidifier Now Available

A recently developed system of air conditioning provides dry air at normal atmospheric temperatures with little or no refrigeration required.

The apparatus is enclosed in a casing through which the air is drawn by fans. The air is filtered and then enters a chamber where it is dehumidified in passing through a spray of "Hygrol" Liquid (a hygienic hygroscopic chemical that absorbs the air-borne moisture; it contains no salts or solids to precipitate). In the same chamber are located cooling coils which remove the latent heat of evaporation and also do any sensible heat removal that may be needed. The air stream then passes through entrained moisture eliminators and is diffused in the space to be conditioned.

The absorbent liquid spray falls into a tank at the base, from which it is piped to a concentrator which removes the moisture taken from the air. The reconcentrated liquid returns to the system. This process is continuous, and the apparatus operates at full capacity at all times.

Niagara Blower Co., 405 Lexington Ave., New York 17, N. Y.

For additional data, request item C-109, using business reply card on page 196.

New Loom Motor

Development of a new ball bearing loom motor has been announced.

One of the new loom motor styles is illustrated in the accompanying photograph of the 216 frame rated 1 hp at 1735 rpm. The "hour glass" construction permits these motors to be used as replacements for loom motors of less horsepower capacity, and for converting group driven looms to individual motor drives without the necessity for extensive modification.

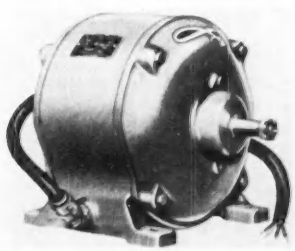
Outstanding features claimed for these loom motors are summarized as follows:

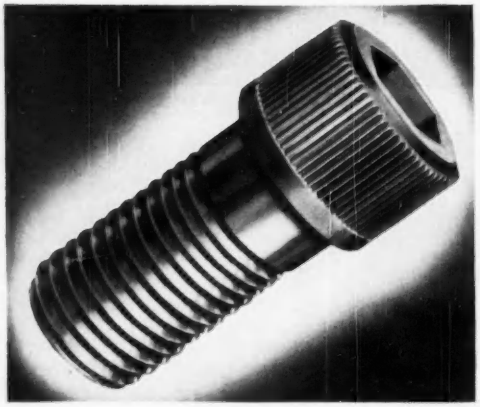
Factory lubricated ball bearings, securely locked in place to provide ample end thrust capacity; special rotor design which permits the loom to more fully utilize the kinetic energy of the large diameter motor—this design enables the motor to drive the loom throughout the entire picking cycle, thereby eliminating the losses and the heat which would result from regeneration.

Cyclic peaks of power have also been reduced to a minimum. This leveling of the power input curve materially improves the power factor of the motor, as well as the overall efficiency, and results in a lower power cost per yard of cloth woven. Further, the use of a relatively high slip design dampens vibration and reduces whip of the crankshaft during reverse movements of the lay, and affords a more uniform beat-up.

This motor is available in ratings of ¾ hp to 2 hp with 214 and 216 frames for use on old style looms and also in the new NEMA 224Y and

Loom motor by Louis Allis features "hour glass" construction.





The UNBRAKO Socket Head Cap Screw

The *knurling* on the head of the UNBRAKO Socket Head Cap Screw saves valuable assembly time because the UNBRAKO can be screwed in faster and further with the fingers — the handiest of all wrenches—before a wrench is needed. The slip-proof knurling "gears" the screw to the fingers, even when they are oily or greasy . . . this is especially important in the smaller sizes.

So, use Knurled UNBRAKO Socket Head Cap Screws and *save time and money.*

Write for further information.

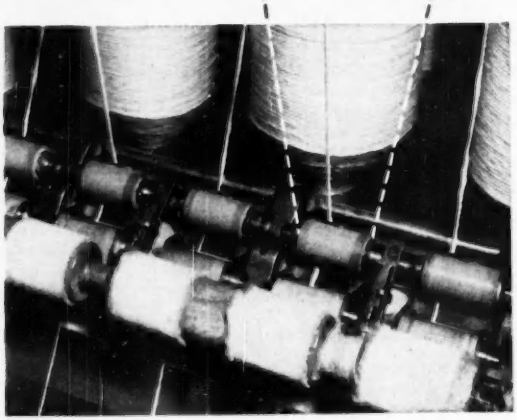
SOCKET UNBRAKO SCREWS

Knurled Head Socket Cap Screws	*Knurled* Head Stripper Bolts
Flat Head Socket Cap Screws	*Precision-Ground* Dowel Pins
Self-Locking Socket Set Screws	*Fully-Formed* Pressure Plugs

AUSPICES OF AMERICAN TEXTILE MACHINERY EXHIBITION ATLANTIC CITY MAY 8-12, 1950

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 34, PENNSYLVANIA

✓ CHECK
THE ADVANTAGES OF KENTEX APRONS



on YOUR OWN frames!

We want you to see for *yourself that* KENTEX precision built, michrometer gauged Aprons will actually fit better, wear longer on *your* frames . . . that they are free of dimensional or thickness variations; that their smooth leather surface keeps tension constant, and helps you spin even, strong yarn of the proper density.

Write us today for free samples and prices, giving us sizes and advising whether you wish open or closed type aprons.

TEXTILE APRON COMPANY
EAST POINT, GEORGIA
J. B. KENNINGTON, OWNER

225Y frames for installation on new looms.

"Three-point suspension" mountings are available for installation on Crompton & Knowles looms.

The Louis Allis Co., Milwaukee 7, Wis.

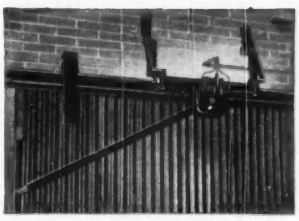
For additional data, request item C-105, using business reply card on page 196.

Pneumatic Operators for Single Sliding Doors

Pneumatic operators for single sliding doors, level or inclined track, are available in packaged kits for newly installed doors or those already in service.

Each kit consists of standardized units (including door operator, wall brackets, operating arm and door slide). Simple installation instructions are provided.

Speed of door opening and closing is pre-set at the factory, but each pneumatic door operator is equipped with speed adjustment screws which permit adjustment to suit special conditions. Action is cushioned and timed to best advantage.



Pneumatic sliding door operator.

Where materials handling has to be greatly expedited, various types of remote controls are available to open doors without delay for the passage of trucks or personnel.

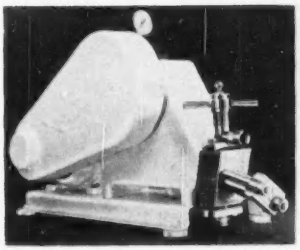
Air pressures of from 80 to 100 pounds are most desirable for proper functioning of these operators.

National Pneumatic Co., Inc., Industrial Division, 420 Lexington Ave., New York 17, N. Y.

For additional data, request item C-111, using business reply card on page 196.

Homogenizer Features Floating Piston Design

Savings in operation costs and time are primary advantages claimed for the Logeman Hydropulse Homogenizer. A unique floating piston mechanism eliminates the necessity for a crank shaft, connecting rods, cross head guides, etc., resulting in a machine of less weight and size.



Logeman Hydopulse Homogenizer.

Another feature of the floating piston construction is the fact that the rod and piston packing resistance is eliminated. The entire mechanism is encased in a bath of oil, resulting in more efficient operation at pressures from 200 to 3000 psi.

Stainless steel pressure head is hermetically sealed to prevent contact of mechanism and product being homogenized.

The hydraulic mechanism, being completely separated from the pressure head and submerged in oil at all times, is capable of pulling a high vacuum which is transferred to the pressure head through the pulsator.

Capacity of the homogenizer is 50 gallons per hour.

C. W. Logeman Co., 633 Bergen St., Brooklyn 17, N. Y.

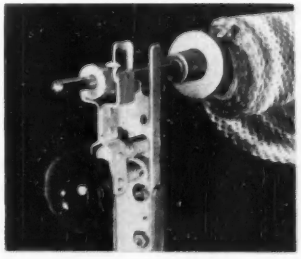
For additional data, request item C-106, using business reply card on page 196.

Two Attachments for Cloth Laying Machines

Two new attachments for cloth laying machines will provide easier and more accurate handling of piece goods.

The "Shifter Attachment" for rolled goods permits the cutter to shift the goods from side to side to assure straight cutting edges along the side of the lay. It is a device fitted onto the near upright of the machine, and the turn of a knob will keep the goods falling into place.

Cloth shifter attachment.



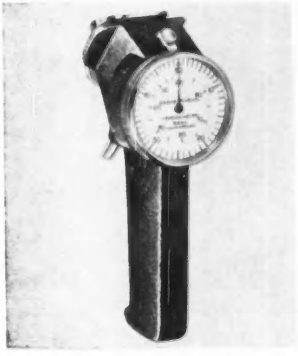
The "Rolled Goods Lifter" is a device used for setting heavy rolled goods onto the uprights of a spreader. The lifter is set on the carriage of the machine so that the cutter simply slides the goods onto the uprights. Loading the machine becomes a one man job, requiring a minimum of effort.

Cutting Room Appliances Corp., 45 West 25th St., New York 10, N. Y.

For additional data, request item C-110, using business reply card on page 196.

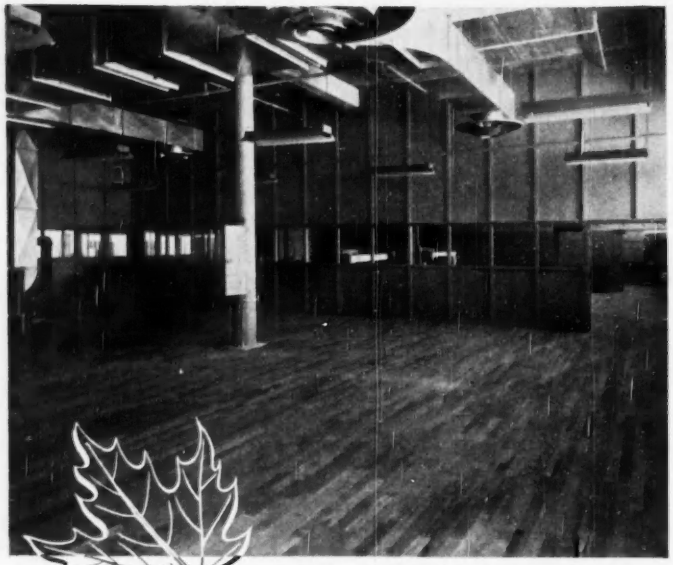
Tension Meter Provides Steady, Accurate Readings

An improved tension meter is equipped with ball bearings throughout, making roller friction negligible. Special precision pulleys recessed in the trigger mechanism automatically guide the yarn into position so that the meter can be inserted blind and yarn can not get caught behind the rollers.



Tension meter (Saxl).

A transparent flywheel through which the readings are taken makes steady readings possible, even on quickly traversing machinery such as quill winders. Sustained accuracy is obtained, it is claimed, because the permanently calibrated spring is always at rest when not in use. The meter is dynamically calibrated under



New Textiles Building, Georgia Institute of Technology. Architects: Bush-Brown, Gailey & Heffernan; General Contractors: Kelly-Bloodworth Floor Co., Atlanta, Ga.

In Georgia Tech's New Textiles Building . . .

sound textiles practice called for floors of enduring

NORTHERN HARD MAPLE

The many splendid qualities that have made Northern Hard Maple the favorite flooring of the textile industry, made it also first choice in Georgia Institute of Technology's new Textiles Building.

It's bright and clean—and a mere broom-cleaning keeps it so. It doesn't splinter. It offers no cracks and crevices to harbor dirt. It's pleasant underfoot, all day. It's quickly refinished. It stands up under wheels and casters of heavy trucks, and resists dents and scars. It lasts a lifetime.

Economical, too! Second or Second-and-Better Grades give you full measure of beauty, utility, endurance, at appreciable savings. Write

SEE SWEET'S

Latest (1950) Editions — Architects 13g-7; Engineers 4j-21—for full data and standard specifications.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Room 391—46 Washington Boulevard
Oshkosh, Wisconsin

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

actual performance conditions.

The new 125-gram model Tensiometer has twice the sensitivity of the 250-gram model which has been and is still being built by this instrument manufacturer.

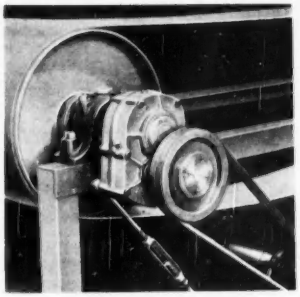
Quick tension measurements may be made on all yarns, including nylon and rayon, and on machines such as warpers, winders, slashers and for winding elastic threads, checking shuttle tension, etc.

Saxl Instrument Co., Harvard, Mass.

For additional data, request item C-102, using business reply card on page 196.

"Package" Type Speed Reducer

A new speed reducer mounts directly on the shaft to be driven and, according to the manufacturer, eliminates the necessity for special engineering. Designed as a "package" item to be available from distributors' stocks, the Torque-Arm Speed Reducer is recommended primarily for conveyors, agitators, mixers, feeders, processors and similar machinery.



Speed reducer (Dodge).

The unit consists of a reducer with a fixed ratio of 15 to 1, driven by a motor through any V-belt or flat belt drive. Any desired output speed from 13 to 133 rpm can be obtained through the use of stock sheaves.

A torque arm, which gives the unit its name, anchors the reducer and provides quick, easy adjustment of the belt tension through the use of a turn buckle. No sliding motor base or foundation or flexible coupling is needed.

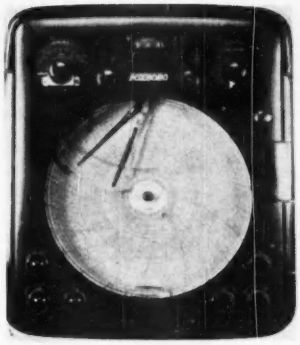
Dodge Manufacturing Corp., Mishawaka, Ind.

For additional data, request item C-112, using business reply card on page 196.

Dye Kettle Controller Has New Advantages

An improved Model 40 CycleLog controller for automatic control of dye machines incorporates many changes in design which offer new advantages and greater convenience, in addition to making possible a more compact assembly.

All of the desired settings for the



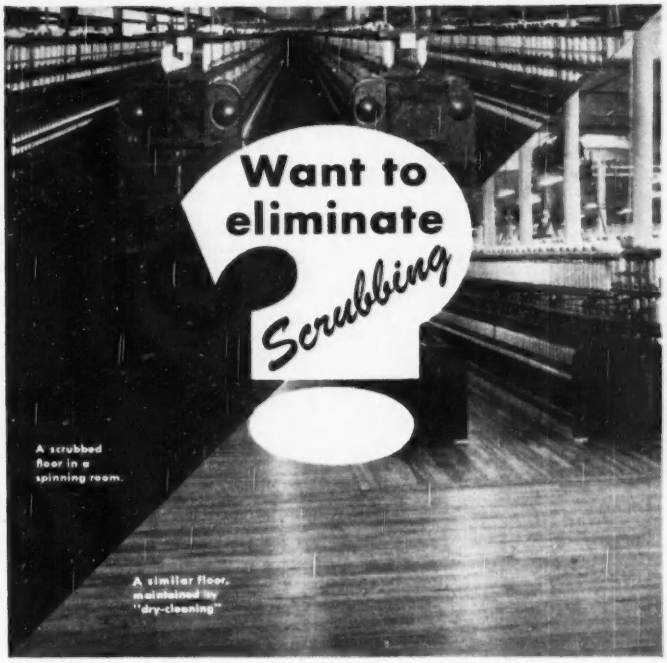
Model 40 CycleLog (Foxboro).

dyeing cycle are made by means of the four knobs on the front of the instrument case, including the rate of temperature rise in degrees per minute, and the holding period, from five minutes to three hours. When the operator pushes the start button the Cycle-Log takes over, and operation becomes fully automatic.

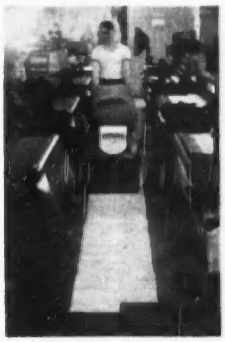
At the end of the cycle the heat supply shuts off and a signal lamp calls the operator. If the same cycle is to be repeated the operator needs only to push the start button again when the dye machine has been loaded.

Two additional timers (adjustable inside the case) have been added in the Model 40 CycleLog. The first of these, the initial timer, is used to allow the dye bath to come to a uniform level temperature before the addition of the dyestuff and the start of the controlled rate of temperature rise.

The second, which is a duplicate timer, is for overtime periods, and has a separate push-button. Thus, at the end of the usual dyeing cycle, if more color has to be added, it is only necessary to push this overtime button, which starts the controller and the timer. At the close of this pre-set overtime period, the steam



...and get cleaner floors *for less!*



FAST, EASY-TO-USE Tennant Floor Machine whisks grime from floors and picks it up in 1 operation. Various models for 8", 12" or 16" drum-type accessories for complete reconditioning and maintenance of mill floors. Has semi self-propelling action.

What a difference when you stop scrubbing and use *modern* methods! Same traffic, oil and dirt conditions—but the "dry cleaned" floor is brighter . . . less slippery . . . easier to clean, and it *costs less to maintain.*

TENNANT FLOOR MAINTENANCE SYSTEM

1. Restores life to your floors. Gets rid of dark, rough, water-softened fibers . . . assures a clean, smooth, new-wood surface. Brings back original beauty of floor.

2. Hardens surface to resist wear. Special sealing process makes floor resistant to dirt penetration and traffic wear. Makes floor lustrous, easy to keep clean.

3. Dry Cleans to keep floor bright. A fast easy job with a Tennant machine; cleans floor like magic! Saves manhours, keeps floor smooth, safe, attractive.

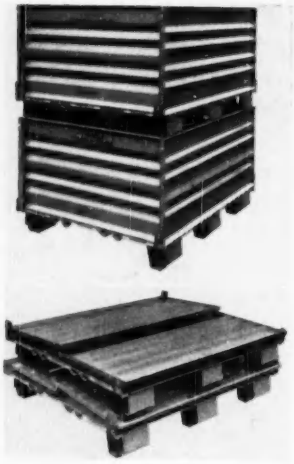
G. H. TENNANT CO.
2585 North Second Street
Minneapolis 11, Minnesota

Write Today!
Send for NEW 4-page illustrated bulletin on "How to Get Better Results in Textile Floor Maintenance."

The way to finer floors
TENNANT
Floor Maintenance System
Established 1870

FLOORS, LIKE ROADS ...ARE SAFER *when dry*

COLLAPSIBLE ALL-STEEL TIERING PALLET BOXES



Designed and built for intra-plant shipment of materials in process, these pallet boxes are also ideal for short or long distance transportation of items such as cones of yarn, etc.

Positive-locking, hinged sides of corrugated metal or open mesh fold flat for low cost return and small space storage. Boxes are of all steel construction, completely welded. Size: 40" x 48" x 24" deep; correct for crosswise loading in box cars and longitudinal loading in trucks.

Fab-Weld Corp., Richmond and Victoria Sts., Philadelphia 24, Pa.

For additional data, request item C-302, using business reply card on page 196.

valve closes and the "end of cycle" light comes on again. This overtime period can be repeated as many times as are necessary, by this simple push-button procedure.

The Foxboro Company, Foxboro, Mass.

For additional data, request item C-104, using business reply card on page 196.

Elapsed Time Calculator

A slide rule type of time calculator simultaneously computes and totals actual elapsed work time. Besides being used for computing time cards, time sheets, etc., many firms are using it for job studies, production cost studies, and similar uses, according to the manufacturer.

In one continuous operation, Time-Tab simultaneously completes all three of the following time-keeping operations: (1) accurately measures actual elapsed work time intervening between time card readings; (2) automatically rejects all time out for lunch or other reasons; (3) accrues and indicates a complete and accurate total of net work time for the entire day, regardless of how many times card is punched in or out.

Time-Tab Inc., P. O. Box 9281, Sta. S, Los Angeles 5, Calif.

For additional data, request item C-301, using business reply card on page 196.

Central Station System Is Factory Assembled

New central station air conditioners, designed and built in capacities from 7,000 to 20,000 cfm, are low in height and may be either mounted on the floor or suspended from the ceiling.

They contain all of the component parts in a factory assembled unit, such as the fan, cooling coil, heating coil, humidifying sprays, filters, outdoor air, return air and bypass air dampers and space for the inclusion of electric precipitators, if so desired.

The units are factory insulated and can be easily erected in the mill with no further insulation required.

Buensod-Stacey, Inc., 60 East 42nd St., New York 17, N. Y.

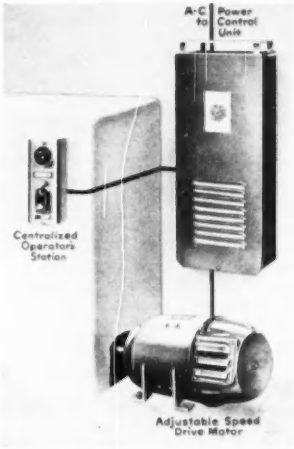
For additional data, request item C-101, using business reply card on page 196.

Adjustable Speed Drive for Small Machinery

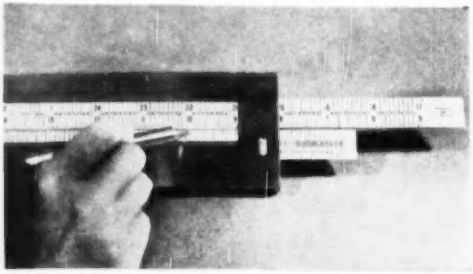
A smaller, less expensive, all-electric, variable-voltage type of adjustable-speed motor drive to operate on alternating current, is available in ¾, 1, 1¼ and 2 hp sizes.

Designed and built to operate on single phase a-c power with "round-the-clock" speeds ranging from 290 to 2300 rpm at rated output and as low as 80 rpm for short periods or at light load, the drive provides stepless speed selection and adjustment throughout this operating range. When used with gearmotors, ranges of lower speeds are available where required.

Other functions performed by the unit are quick, smooth starting and stopping; jogging and creeping speeds, and conveniently centralized control either at the machine or any remote location desired. The design of the drive also makes it readily adaptable



Small variable-speed drive (Reliance).



Time-Tab slide rule type time calculator for computing and totaling actual elapsed work time.

CALCO dyelines

No. 13 of a series

PUBLISHED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT, Bound Brook, New Jersey
New York • Chicago • Boston • Philadelphia • Charlotte • Providence

A New Line of Resin-Bonded Pigments

Calcotex* Colors were developed especially for printing resin-bonded pigments via the water-in-oil emulsion system to provide superior fastness of pigments in cotton printing.

They find their principal use in printing on cotton percales, dress goods, flannelettes, prints for plissé, sportswear, shirtings and specialty items. They have been used successfully on other types of fabrics and for "dyeing" in light and medium shades.

Calcotex Colors can be printed alone or in the same combination with stabilized azoics (Calconyls), leuco vat esters (Calco Soluble Vats) or on naphthol prepared goods along with fast bases and salts. When properly applied and cured, Calcotex Colors give maximum light fastness, as well as adequate fastness to washing, rubbing and crocking.

The Calcotex line of colors represents a complete range of shades.

*Trade-mark

A Fast Yellow for Cottons

Calcosol* Fast Yellow Paste and Calcoloid* Fast Yellow Double Powder produce clear, bright yellow shades with a minimum light fastness rating of 6 and excellent fastness to other destructive influences. They level easily on filament and spun viscose.

The Calcosol Fast Yellows are recommended for producing yellow shades where either is the sole or major component. They yield best money value when applied with a minimum concentration of caustic soda and a maximum concentration of salt. Low liquor ratios also promote good color yield.

*Trade-mark

For the Textile Bookshelf

Calco Technical Bulletin No. 810—"Vat Dyeing: Importance of Initial Exhaustion Rate" by O. W. Clark and H. R. McCleary. Discusses the exhaustion rate of vat dyes on cotton cloth, with accurate data on behavior of several vat dyes from the leuco bath. It also examines results of laboratory continuous reduced dyeings in relation to these exhaust data.

Available at No Charge... is a beautiful full-color reproduction of John Clymer's painting, "Early Calico Printing," suitable for framing. This painting was featured on the 1949 Calco calendar. Just write for a copy.

Excellent Fastness on Wool Achieved with Calcochrome Dyes

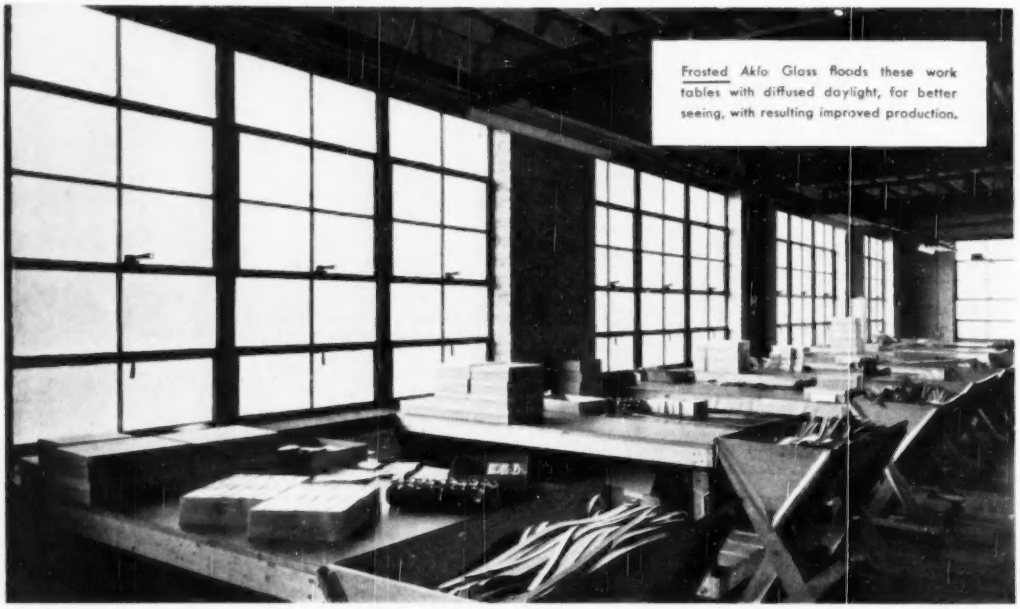
No two people, fingerprints, or leaves on a tree, are alike. Neither are any two wool fibers exactly alike in appearance or dyeing properties. When chrome dyes are applied by the top-chrome or metachrome methods, the dyes minimize these variations and achieve fiber levelness.

In general, Calcochrome* dyes assure good to excellent fastness properties on raw stock, tops on piece goods for men's suiting and overcoats, ladies' wear, bathing suits, certain shades of hand knitting yarns and blankets.

Most Calcochrome dyes are fast to light, washing, fulling, salt water, acid and alkaline perspiration and crocking. Some can also be used for cross-dyeing and for dyeing fabrics containing effect threads which must remain white. Many will withstand chlorination after dyeing. Chrome dyes were present on every battlefield during World War II since government specifications for olive drab shades required their use. Shrinkage control of wool fabrics has created demand for dyes which are fast to washing, and chrome dyes applied by a top or metachrome procedure are ideal for this purpose.

*Trade mark

Night watchmen at Calco walk 14-15 miles nightly



Frosted *Aklo* Glass floods these work tables with diffused daylight, for better seeing, with resulting improved production.

Production UP... Labor turnover DOWN with FILTERED DAYLIGHT

That's the record at the Reliable Belt Company's Chicago plant where Blue Ridge Frosted *Aklo*® Glass was installed in side walls and skylights for reduction of glare and sun heat.

Before the *Aklo* installation, roller shades were lowered to avoid glare. As a result artificial lighting was required even on sunny days. Here are some comments from the management on the success of filtered daylight through *Aklo* Glass:

- Increased production with fewer rejects because quality of light is better.
- Better attention to the job with less time out for rest periods because of eyestrain.
- Economy on artificial light and no more maintenance of shades.
- More comfort on hot days because *Aklo* retards sun heat.
- Happier employes and resulting lower turnover.

Whatever you make in your plant, these are benefits which can help you keep production costs down.

AKLO REDUCES GLARE. This blue-green diffusing filter between the sun or sky and the eyes of workers makes seeing more comfortable, less tiring.

RETARDS SUN HEAT. *Aklo* Glass absorbs nearly all the infrared radiation of the sun and re-radiates much of it externally. Interiors stay cooler. Load on air conditioning is decreased.

Aklo Glass is manufactured by the Blue Ridge Glass Corporation of Kingsport, Tenn., and sold through L·O·F Glass Distributors. Ask your distributor for a Radiometer demonstration, see for yourself how Frosted *Aklo* Glass reduces glare and sun heat. *®

Free Book on Reduction of Sun Glare and Heat. **Write to Blue Ridge Sales Division, Libbey-Owens-Ford Glass Company, 9435 Nicholas Building, Toledo 3, Ohio.**

BLUE RIDGE AKLO GLASS

Heat Absorbing • Glare Reducing • Figured and Wire Glass

for application to existing machines or for installation on new units as original equipment.

The drive consists of four basic components: (1) a drive motor for connection to the driven machine; (2) an operator's control station; (3) a newly designed control unit.

Reliance Electric & Engineering Co., 1111 Ivanhoe Road, Cleveland 10, Ohio.

For additional data, request item C-108, using business reply card on page 196.

Nylon Bands Feature Controlled Stretch

Controlled stretch is one of the outstanding features claimed for a recently developed line of nylon bands for spinning, spooling, and twisting operations.

Available in both the hook and endless styles and in a complete range of sizes for all operations, these bands have exceptionally long life, according to the manufacturer. In addition, they operate with less slippage, do not load up with lint and are not affected by moisture and oil.

Textile Banding Co., P. O. Box 1541, Athens, Ga.

For additional data, request item C-304, using business reply card on page 196.

Hand Spring Winder

The Blaner Universal Hand Spring Winder is designed to make springs quickly and efficiently without the use of a lathe.

Available in four sizes, the device clamps into a bench vise and is easily operated by hand. Mandrel capacity, up to 1½ inches; wire capacity up to .299 inches diameter; pitch capacity up to 1 inch.

Blaner Manufacturing Co., 629 Meek St., Sharon, Pa. (C-305).

Improved Flow Gauge

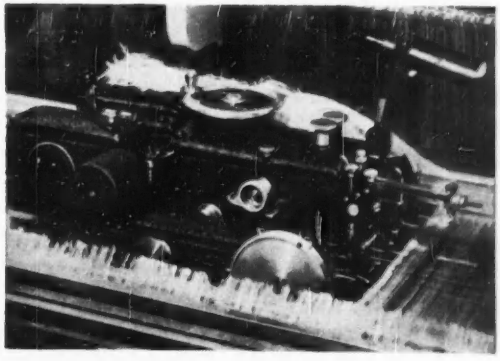
A completely redesigned Magna-Sight flow gauge consists of a short body, with flanged or screwed pipe connections, which accommodates a fixed orifice in the lower end. A tapered metering plug rises and falls with fluid flow rate in accordance with variable area metering principles. The metering plug carries a permanent magnet, and a hollow, soft-iron follower rides in an external slot. Covering the slot is a plate on which is engraved a scale calibrated either in gallons per minute or

the TITAN
automatic WARP TYING MACHINE
offers these unique operating features

- TWO in ONE — 1. Ties warps with and without lease. 2. Ties leased warps to unleased warps.
- ONE to ONE — One and *one end only* is tied to one and only one end from the old and new warp.
- FASTEST — Ties 6,000 to 18,000 knots an hour, according to fibre and count.
- FULL WIDTH — Ties full width of warp in one continuous operation, at loom or stationary.
- VISIBILITY — Knots visible and accessible at all times.
- FOOL-PROOF — Automatic position adjustment in relation to warp. Automatic indication of double ends in the lease.
- ADAPTABLE — Quickly adapted to wide range of yarns.
- FLEXIBLE — Ties any kind of natural and synthetic fibre such as cotton, wool, worsted, silk, nylon, viscose acetate, and combination yarns.
- PRECISION — A rigidly built "streamlined" machine.
- DUST-PROOF — Driving mechanism completely enclosed . . . protected from lint and dust.
- SIMPLE — Easy to operate . . . speeds production . . . minimizes loom stoppage . . . effects important economies.

Write for descriptive, illustrated Bulletin T2.

DOES THE WORK OF MANY HANDS



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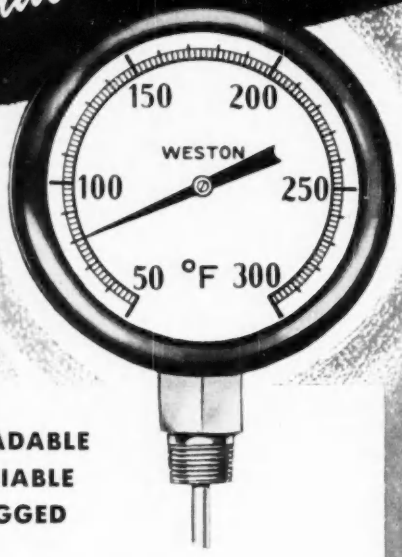
AMERICAN MACHINE & FOUNDRY COMPANY
261 5th AVE., NEW YORK CITY

Prescription for industrial temperatures



Rx READABLE RELIABLE RUGGED

WESTON

All-Metal Thermometers

Rugged, all-metal construction . . . stainless steel stems . . . bold, readable dials . . . accuracy within 1% over the entire scale—all add up to the answer to industry's toughest temperature measurement requirements. Choose a dependable WESTON thermometer from a variety of types, stem lengths and scale ranges. Call your jobber, your WESTON representative, or write for Thermometer Bulletin . . . WESTON Electrical Instrument Corporation, 659 Frelinghuysen Avenue, Newark 5, New Jersey.

CONTACT MAKING models for alarm or control purposes.
MAX-MIN models to indicate highest or lowest temperature reached.

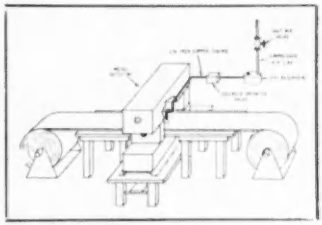
WESTON Instruments

in millimeters. The position of the follower relative to the scale indicates flow rate.

Fischer & Porter Co., Hatboro, Pa. (C-114).

Electronic Metal Detector For Conveyor Installation

A new electronic metal detector designed to safeguard non-metallic products such as cotton, wool, etc., can be used on conveyor installations at speeds ranging from 15 to 600 feet per minute with full sensitivity, according to the manufacturer. It is completely self-contained and needs



Typical metal detector installation (Allis-Chalmers).

only to be plugged into an electrical outlet to operate.

The metal detector is said to spot all kinds of metal in particles as small as .039 inches in diameter, regardless of how deeply imbedded in the material they may be. It is available in four standard aperture heights—2, 4, 7, and 12 inches to meet various production requirements. However, special sizes can be built for applications where standard units would be inadequate.

Allis-Chalmers Mfg. Co., Milwaukee, Wis. (C-306).

Pocket Comparator

The Pocket Comparator, a high-precision optical measuring instrument designed primarily for the inspection of small parts or small dimensions on large parts, should find application in the textile industry for checking defects in fabrics, etc. It permits the user to compare through a magnifying lens the part to be checked against a finely calibrated pattern or reticle.

National Tool Co., 11200 Madison Ave., Cleveland 2, Ohio. (C-113).

Floor Maintenance Machine for Congested Areas

With the Model 12W floor machine it is possible to scrub, wax, and polish floors in small, congested areas that normally could not be reached, where

Floor maintenance machine (Lawlor).

there are counters, desks, lockers, etc. An adjustable handle makes it possible to operate the machine with either a stationary handle (locked in position most comfortable for the operator) or, if desired, can be regulated to operate in a flexible position, allowing free movement within an 80 degree arc for reaching under all fixtures. Handle can be lowered to a horizontal position. All adjustments are made with foot lever.

S. C. Lawlor Co., 126 N. Aberdeen St., Chicago, Ill. (C-123).

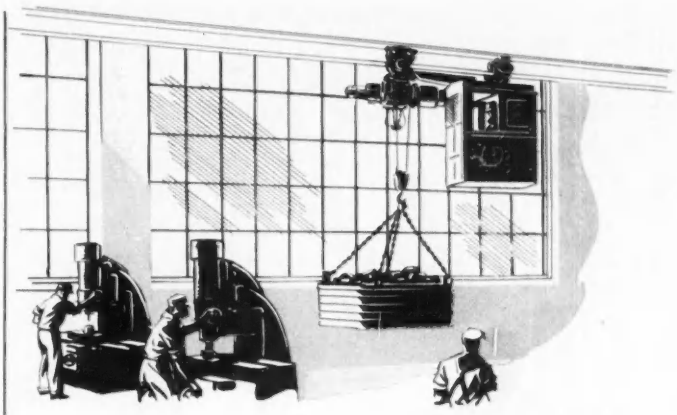
Magic-Grip Coupling

A coupling, simply constructed and easy to install or remove from the shafts of pumps and motors, is available in two bore sizes— 5/8" and 2 1/8", both taking up to 120 hp at 3,550 rpm. Known as the Magic-Grip coupling, it consists primarily of two cast iron discs with tapered bores, rubber covered tubes assembled on studs, split tapered bushings, and two set screws for each disc.

Allis-Chalmers Manufacturing Co., Milwaukee, Wis. (C-119).

Type E Gearturbines for Low-Speed Applications

Type E industrial steam turbines with close-coupled, integral reduction gears for low speed applications are available. Equipment such as pumps,



For lowest-cost-per-load...

use dependable thru-the-air handling

KEEP in mind these important advantages which "through-the-air" handling alone gives you. Unrestricted use of floor space, accurate spotting of work, higher stacking, greater dependability and safety, lower upkeep and longer life. On the production line or when storing or warehousing, they add up to worthwhile savings.

For a great many years, we have devoted our entire facilities to the manufacture of cab-operated and floor-controlled hoists, and overhead traveling cranes—and to laying out plant systems to make them the most efficient of all lifting and conveying tools.

May we show you pertinent data on installations similar to yours?

Shepard Niles

CRANE & HOIST CORPORATION

Makes and sells all three lifting tools for airborne shop loads

465 SCHUYLER AVENUE • MONTOUR FALLS, N. Y.

Low Cost—Johnson General Purpose Bearings are produced in long runs of each size, at very low unit costs. No charge is made for patterns or tools.

Immediate Delivery—Complete stocks of all sizes are always maintained by Johnson distributors, and by the Johnson Bronze plant and twenty-two warehouses.

Over 850 Sizes—Johnson GP Bearings are made in a wide range of sizes, 55 inside diameters, 55 outside diameters, and 46 lengths from ¾" to 9¾". It is possible to obtain virtually any size combination desired.

Ready to Install—They are completely machined to standard tolerances, ready for immediate installation. Any type of oil groove, slot or hole can be added easily and economically.

Guaranteed Quality—Johnson GP Bearings are cast in a general purpose alloy, providing better than average physical properties and assuring long life and excellent performance. Each individual bearing carries a guarantee to be consistent in alloy, correct in tolerance and of the finest workmanship possible.

If you do not have a Johnson Bronze Catalog of standard size sleeve bearings on your desk, we will be glad to send you one at once. Write today!

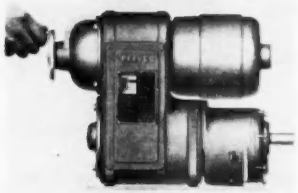
Johnson Bronze
SLEEVE BEARING HEADQUARTERS
530 SOUTH MILL STREET • NEW CASTLE, PA.

fans, compressors, and generators can be driven at their proper speeds by these gearturbines while the turbines operate at their most efficient speed.

Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. (C-120).

Fractional Horsepower Variable Speed Drive

A smaller and more compact version of the Reeves Motodrive in fractional horsepower sizes is now available. This unit combines motor, speed varying mechanism, and reduction gears in one package. Sizes: ¼, ⅓, ½, and ¾ hp. Ratios of stepless speed variation within 10:1 are available for each size. Known as the "1000 Series" of the Motodrive, these units are as small in height as 9⅝" in horizontal position and 16⅞" in vertical position.



Fractional hp drive (Reeves).

Reeves Pulley Co., Columbus, Indiana. (C-132).

New Ion Exchange Process Delivers Quality Water

Water containing less than 1 part of ionic solids per 100 million parts of water can now be produced by simple passage through a mixed bed of Amberlite ion exchange resins. The new technique permits complete removal of inorganic salts without deviation from chemical neutrality.

Treatment of water with an average hardness (as $CaCO_3$) of 69 parts per million, delivers water with an electrical resistance of 10 million ohms per centimeter from resin beds regenerated to only 50% of capacity.

Other advantages claimed: reduced costs of both equipment and regeneration; lower rinse requirements; uniform performance in intermittent service; and a sharp breakthrough at depletion of the bed.

Rohm & Haas Co., Resinous Products Div., Washington Square, Philadelphia 5, Pa. (C-128).

A Textile Utility
Product of
Wide Application

NEWLY IMPROVED!!!
now a *four star* product

Levelene*

★ wetting-out
★ preparing
★ dyeing
★ finishing

An effective Leveling agent—Penetrant—Dispersant and active Stripping Catalyzer.

New Levelene has greatly improved wetting-out properties.

Particularly well suited in minute quantities as a retardant for vat dyeing—either in the pigment pad or reduced methods—as well as for vat stripping.

Another of the A.A.P. range of superior textile auxiliaries.

For detailed information regarding your own particular requirements consult our nearest branch. A.A.P. technicians are always happy to be of service.

AMERICAN ANILINE PRODUCTS, INC. 50 Union Square, New York, N. Y. • *Plant:* Lock Haven, Pa.
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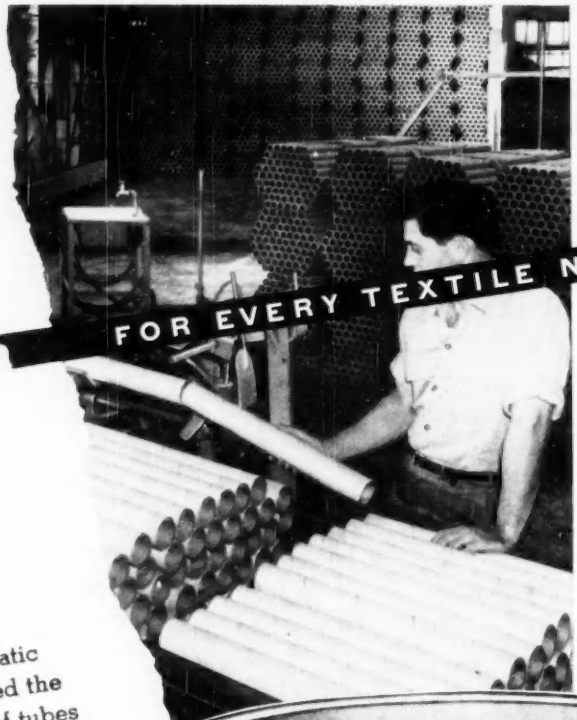
*Reg. U. S. Pat. Off.

SERVING THE TEXTILE INDUSTRY SINCE 1899

Sonoco PAPER TUBES



FOR EVERY TEXTILE NEED

AUSPICES OF
AMERICAN TEXTILE MACHINERY EXHIBITION
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TEXTILE MACHINERY MANUFACTURERS

BOOTHS 71-72

Modern automatic machines speed the manufacture of tubes to precision dimensions—parallel, convolute or spiral wound. SONOCO is equipped to make tubes to any specifications for the textile industry.

IN ANY PRACTICAL LENGTH AND WALL THICKNESS

1/8" I. D. to 24" I. D.

Special treatments include embossing, printing, Velvet Surface, Unitex (flocked) Surface, colored paper, colored ends, burnished ends and various impregnated processes.

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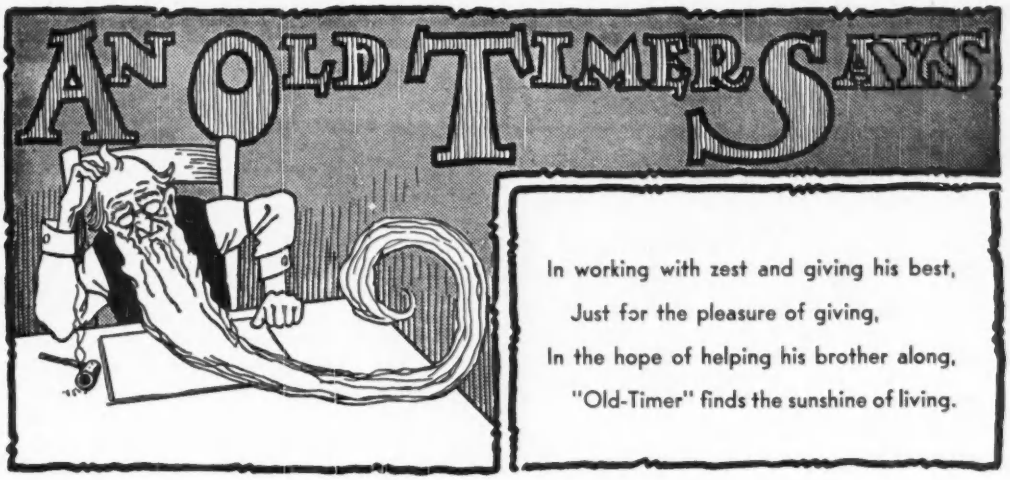

AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Can You Dream?

This discussion is continued from the February issue.

THE OPERATING executive who can offer the most plausible *reason* for giving orders to his employees for them to carry out will succeed in getting results much more readily than the operating executive who just gives the orders and raises cain with the employees who do not carry them out. Reason appeals to human nature.

As you endeavor to train your Imagination to work for you, do not lose sight of the laws of human nature in all of your relations with your employees, and with your employers as well. To be an outstanding success you must have the ability to sell your ideas to both your employees and to your employer.

Imagination Working

The author of the OLD-TIMER page was a contributor to "Cotton" magazine quite a few years before the OLD-TIMER page was conceived and published. In the files of W. R. C. Smith Publishing Co. is an article containing our prediction that someday textile mills would be built with windows you could not open—that the atmosphere inside the mills would be automatically controlled. Boy, did that bring a lot of laughs.

We also predicted that future picker rooms would not beat the cotton so much and that possibly the number of processes would be reduced. At that time we had three processes of pickers and three processes of fly frames, with a few mills on print cloth numbers having jack frames which made four processes of fly frames. Thus we had 4 x 4 = 16 doublings in picker room, times 6 on first drawing = 96, times 6 doublings on second drawing = 576 (some mills had 3 processes of drawing) x 2 doublings on intermediate = 1152, times 2 doublings on speeders = 2304, times 2 doublings on spinning = 4608. Let's see, how many do you have now to make 30s warp? Oh! well, the working of OLD-TIMER'S Imagination those long years ago indirectly resulted in quite a nice promotion, which we wish we could take the space to tell you about.

Imagination—Then Invention

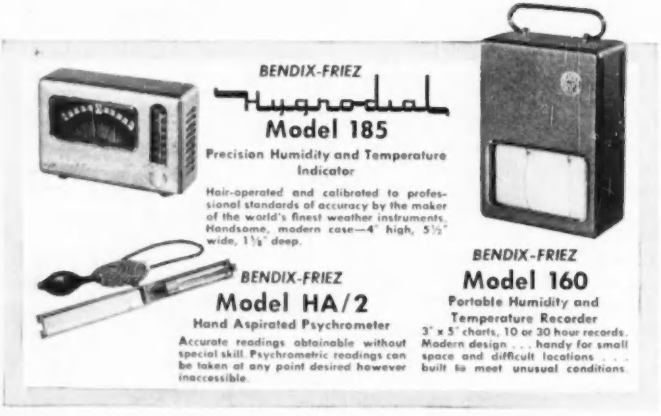
You know, fellows, Imagination must *precede* all invention. By the same token all progress in textile manufacturing must *follow* Imagination. The distinction or difference between invention and Imagination is very marked, and every one of you overseers, superintendents, and managers should keep this fact constantly in mind in solving all of your problems.

It is, of course, costly to make mistakes in your decisions—costly to your firm and costly to your reputation. Results are what your employers are looking for and leadership is what your employees are expecting. When you strike a snag, let your imagination have full sway in reasoning out a remedy for the solution, but do not invent a remedy or solution. That is, you must find the *cause* for any condition or problem you are try-

assure MAXIMUM uniformity . . .

keep an accurate check on relative humidity and temperature

The control of relative humidity and temperature has become increasingly important in the textile industry. Progressive plants have learned that keeping an accurate check on these two all-important factors is easy as well as profitable. Bendix-Friez instruments offer an unparalleled combination of precision and economy for this highly specialized type of work.


BENDIX-FRIEZ
Hygrodial
Model 185
Precision Humidity and Temperature Indicator
Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1½" deep.
BENDIX-FRIEZ
Model HA/2
Hand Aspirated Psychrometer
Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.
BENDIX-FRIEZ
Model 160
Portable Humidity and Temperature Recorder
3" x 5" charts, 10 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.

WRITE:

FRIEZ INSTRUMENT DIVISION of

1342 Taylor Avenue

Baltimore 4, Maryland

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N.Y.

Bendix AVIATION CORPORATION

ing to solve. If you attempt to fix the *effect* without first knowing the *cause*, you are not likely to get results. If you have a strike on your hands be sure you delve deep enough to find the true cause which developed into the strike.

Sometimes such cause is of long standing; it has been brewing for months; it is something which has been wrong all the time and finally came to a head probably under a different name. The operatives say they are striking because of so and so, and strange to say they may honestly believe they are. While back of it all may be the *real* cause.

Cause and Effect

Cause and effect are just as widely separated from each other as Imagination and invention, but still you can't have effect without cause any more than you can have invention without Imagination.

Looks like we are getting a little mixed up, does it not? Just bear in mind we are trying to tell you not to get the cart before the horse. You certainly cannot settle a strike so it will stay settled without first finding the true *cause*. This reasoning applies equally to all grievances, disloyalty, labor turnover, or simple inefficiency of operatives. Find the *cause* and you can eliminate the effect.

When operatives do not respond to orders or instructions, providing those orders or instructions are reasonable, the search for the cause should begin with the man who originally gave such orders or instructions. If the superintendent gave the orders, did he present the matter to his overseers properly—did they have the opportunity to talk freely in giving their ideas of the *effects* of such orders or instructions—were they finally "sold" on the idea? Then, of especial importance, did they present the matter to *their* subordinates, assistant overseers, and section men along the same general idea which you presented it to them? You know you can say "Good Morning" to a man in a way that it will convey the thought of a cordial greeting or in a way which is the same as saying just the opposite.

The man who gives instructions to overseers, and overseers who give instructions to assistant overseers and section men, should take particular pains to be sure those instructions are fully understood in the way they were meant to be. See if you can catch what we mean by the following:

John Brown says Sam Smith is the most efficient overseer. (In this sentence Sam Smith is the most efficient overseer, isn't he? John Brown says so.)

John Brown, (pause) says Sam Smith, is the most efficient overseer. (In this sentence John Brown is the most efficient overseer, isn't he? Sam Smith says he is.)

Now gentlemen, if adding a couple of commas can change a written sentence so Sam Smith loses his standing as the most efficient overseer, you had better watch your step in the way you express yourself when you are talking to subordinates, or employees, or to your employers.

Try saying the foregoing two sentences out loud to fully catch the idea we are trying to convey to you.

Yeah, you better be careful how you say "good morning."

(Continued next issue)

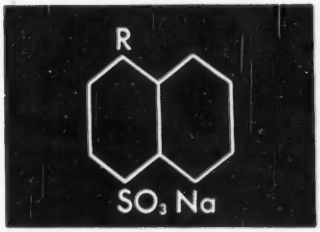
Standard Color Swatches Preserved Perpetually

A technique for permanently storing perishable or degradable objects was exhibited at the American Association for the Advancement of Science meeting in New York. The method can be applied to preserving swatches of material, standard dyed yarn and fabric samples, and raw staple.

Demonstrated by Ward's Natural Science Est., Inc., the technique consists of casting the object in a thermosetting polyester resin which is supplied as a clear liquid having a consistency of about that of glycerine. Under the proper conditions, through the addition of a catalyst and heat, it sets into a hard clear mass which can be sawed, sanded, and buffed to a high luster. The substance is transparent and is heat, water, and chemical resistant.

Newsworthy onyx Chemicals FOR TEXTILE PROCESSING

Sorolene* G—Low Cost Anionic Wetting Agent with Excellent Dispersing Properties



Chemically, Sorolene G is the sodium salt of an alkyl naphthalene sulfonic acid. It is an exceptionally fast wetting agent with moderate foaming action. It has a wide field of usefulness as an assistant in many detergent processes. Its dispersing characteristics are most useful in pasting up dyes, and in levelling, and penetrating action in dyeing. Low in first cost, its effectiveness in low concentrations makes Sorolene G a very economical material to use.

Properties

Sorolene G is sold in paste form, and contains 28% active ingredient. It is compatible with hard water and moderate concentrations of metallic salts, and is stable in both acid and alkaline solutions.

WETTING ACTION (Draves Test)

Concentration	Wetting Time in Seconds		
	25° C.	40° C.	60° C.
0.5%	10 Sec.	7 Sec.	6 Sec.

Suggested Uses

Wetting Agent
•
Assistant in Scouring
•
Assistant in Boiling Out Cotton Goods
•
Levelling and Penetrating Agent in Dyeing
•
Pasting-Up All Types of Dyes

ESTRAMINE... A New Low-Use Cost Non-Ionic Detergent and Emulsifying Agent.

Estramine is a fatty acid alkanolamine condensate in liquid form, with 95% active material. Compatible with anionic and cationic materials, it is a highly effective detergent and wetting agent for a great many textile processing operations. It is of particular value as a dispersant for heavy dye solutions. Because of its powerful detergent action, it is being used in place of soap in many operations, notably in the scouring and fulling of wools and worsteds. It leaves the fabric in a soft, porous, unusually receptive condition for subsequent finishing.

XYNO RESIN R . . . A Completely Water-Soluble Resin Finish.

Xyno Resin R is a completely water-soluble resin finish, available as a 50 per cent active aqueous solution.

It was developed primarily as a non-curing finish for imparting a broad range of desirable hands to synthetics, particularly acetates, without introducing mark-off or dull effects. It has been used with marked success on conventional equipment on taffetas, foulards, jacquards and tie fabrics.

A particularly interesting application of this resin is as a stiff, lustrous finish without mark-off on acetate ribbon.

If you are concerned with stiffening effects on any synthetic materials, you will find Xyno Resin R worth investigating.

*Trade Mark Reg. U.S. Pat. Off.

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ONYX OIL & CHEMICAL COMPANY, JERSEY CITY 2, N. J.
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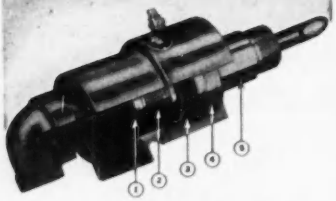
WHERE *Good Connections* COUNT!

ROTARY UNIONS



1—SILVER BRAZED CONSTRUCTION
2—BELLOWS OF HEAVY MONEL
3—GRAPHITE POSITIVE SEALING
4—BALL BEARING RADIAL THRUST
5—SHAFT OF SPECIAL STEEL

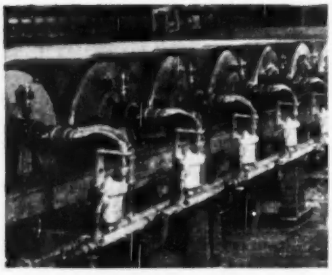
The most efficient and economical connection to revolving shafts or drums, for heating or cooling purposes.

Available from Stock in Pipe Sizes from ½" to 3" Plain & Syphon Types

Standard ALL-PURPOSE ROTARY UNIONS for such applications as Steam up to 150 P.S.I. Hot Oil to 550°F, Coolants, Air, Gases, Water, Brine, Vacuum, Alternate Mixtures, Speeds up to 1000 R.P.M. and others.

FOR HIGHER SPEEDS, PRESSURE, TEMPERATURE AND DOWTHERM.

Write for Recommendations or Special Designs



HERE IS WHY MACHINERY MANUFACTURERS AND TEXTILE MILLS

are replacing stuffing boxes and packing joints with ROTARY UNIONS. This photo shows a battery of ROTARY UNIONS installed on a Can Dryer. Notice the neat appearance, the absence of complicated piping and brackets. ROTARY UNIONS are favored by Engineers and Maintenance Men because of their dependability, low friction drag, easy installation, economy and long trouble-free operation.

WRITE FOR CATALOGUE explaining advantages of using ROTARY UNIONS in your plant.

Agents in Principal Cities and Canada

PERFECTING SERVICE COMPANY
332 Atando Ave., Charlotte, N. C.

SUPPLIERS' NEWS

WHAT THEY ARE DOING

Whitin Machine Works, Whitinsville, Mass., has announced the appointment as chief development engineer of Dean Cabot, formerly of H&B American Machine Co.

H. Walter Fricke, Charlotte, N. C., has been made a sales representative of **Robert Reiner, Inc.,** Weehawken, N. J. Mr. Frick will sell Reiner Twin Knitters in North and South Carolina, Georgia, Alabama, Mississippi, and Tennessee.

Spencer W. Sparks has been appointed representative for **H. Brinton Co.,** manufacturers of circular knitting machines, in the states of Tennessee, Alabama, Northwest Georgia, Kentucky, and Mississippi. His headquarters will be in the Chattanooga (Tenn.) Bank Building.

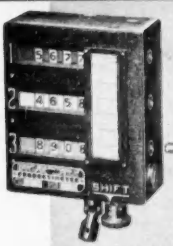
Mr. Sparks

Dennis A. Riordan was recently elected treasurer of the **Hooker Electrochemical Co.,** Niagara Falls, N. Y., succeeding John F. Bartlett, retired. Mr. Riordan has been associated with the company since 1924.

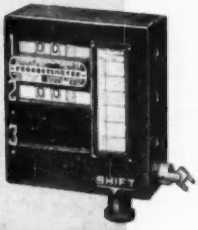
The **Hooker Electrochemical Company** is planning to increase its production facilities for caustic soda and liquid chlorine at its Tacoma, Wash., plant and expects to have the expansion completed late in the year. Also, in cooperation with the Detrex Corp. the company is building a Hooker-Detrex plant at Ashtabula, Ohio, for the manufacture of chlorinated solvents.

Glyco Products Co., Brooklyn, N. Y., has assigned Dr. Franklin T. Peters to its newly formed Develop-

PRODUCTIMETER TEXTILE COUNTERS *for every application!*



3-SHIFT PICK COUNTER



2-SHIFT HANK COUNTER

LINEAL COUNTER

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ROTARY COUNTER

Productimeters meet every need of the mill man in providing accurate production records. They eliminate losses... help maintain maximum production ... and supply an accurate basis for wage payment.

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Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879 *Speedometers OF INDUSTRY*

ment Department. Dr. Peters will be available for consultation on new chemical products made at the Natrium, W. Va., plant.

D. J. Wright has been transferred from the Montreal, Quebec, office of the **Union Special Machine Co.** to its foreign department in Chicago, Ill. Replacing him in Montreal is Clyde F. Amey, who has been with the Canadian branch since 1936.

Victor Saxl has been appointed sales manager and engineer of **Stellite American Corp.**, 60 East 42nd St., New York 17, N. Y., agent for Stellite, Milan, Italy. The Italian firm is distributor for four Italian textile machinery builders.

Hyster Company, Portland, Ore., has appointed three new district managers of industrial truck sales. Donald R. Shaffer has a territory comprising southeastern Canada, eastern Michigan, northern Ohio, and southwestern New York; John F. Wright will take over the supervision of a large western area of the continent; truck sales in the Hawaiian Islands and several western states will be under the direction of Karl T. Barr.

Link-Belt Company has opened a factory branch store and warehouse in Kansas City, Mo., at 2630 Homes St. The building has a total floor area of 13,200 sq. ft.

Offices of **P. A. Green Co., Inc.**, division of Green Textile Associates, Inc., have been removed to 241 Church St., New York 13, N. Y.

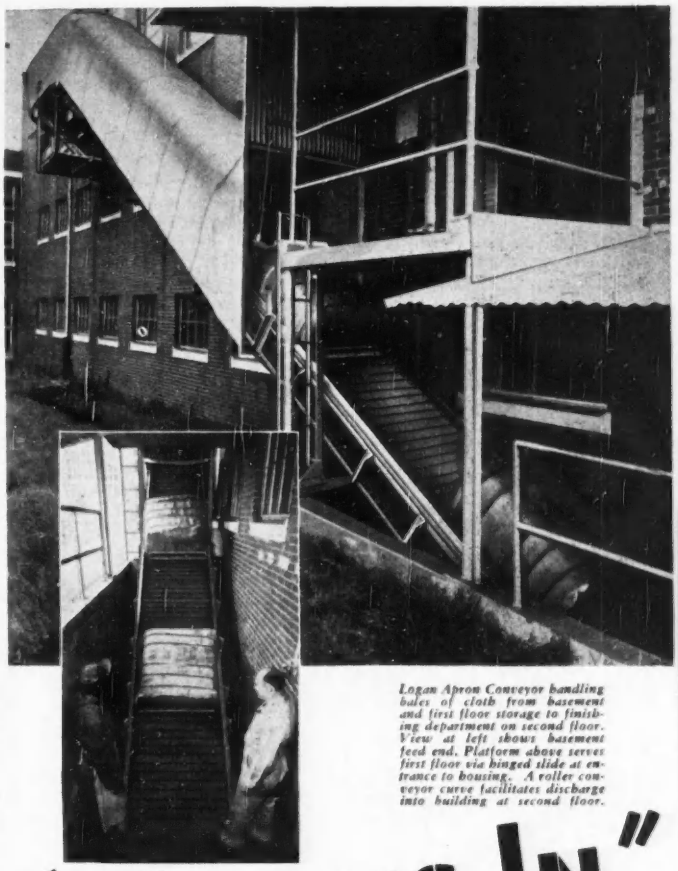
Comer-Whittier Shops, a firm manufacturing textile machinery, has changed its name to **American Engineering Corp.** Executive offices are at 308 Ivy St., Atlanta, Ga., and its plant is at Tucker, Ga.

The **Dow Chemical Company** has announced the opening of its Atlanta sales office at 161 Spring Street Building, Atlanta, Ga.

Harry E. Lewis succeeds Joseph A. Schallenberg, deceased, as assistant comptroller of **Worthington Pump and Machinery Corp.**, Harrison, N. J.

The laboratory of **Jones, Gardner, & Beal** has been recently established for the benefit of a group of spinning mills located in North and South Carolina, New England, and Canada. It is located at 73 Monroe Ave., Memphis, Tenn.

The **Manton Gaulin Manufacturing Co., Inc.**, Everett, Mass., has announced the appointment of three



Logan Apron Conveyor handling bales of cloth from basement and first floor storage to finishing department on second floor. View at left shows basement feed end. Platform above serves first floor via hinged slide at entrance to housing. A roller conveyor curve facilitates discharge into building at second floor.

"MOVING IN"

Whether it is "moving in" — "moving out" — or "moving between operations" — there is a type of Logan Conveyor for almost every textile mill handling job.

Dependable Logan equipment eliminates waste motion, provides straight-line-flow for incoming materials, work in process through spinning and weaving, and finished cloth to shipment.

Write today for information or for the nearest Logan engineer to contact you.

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Logan Conveyors

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

representatives for the textile field. Henry C. Perry, covering the northeast and central Atlantic states, and Joseph J. Dwyer, north central states and Canada, may be reached through the company's offices at Everett. Robert E. Sidebotham, representative in the southern states, may be reached either at Everett or 107 Atwood St., Greenville, S. C.

American Aniline Products, Inc., 50 Union Square, New York, N. Y., has announced the election of George L. Armour as president of the firm. William O. Henley, comptroller and a director, has assumed the duties of treasurer. James J. O'Donnell, Jr., has been appointed credit manager.

Herman Nelson Corporation, Moline, Ill., has merged with the **American Air Filter Co., Inc.,** Louisville, Ky., and will be operated as the Herman Nelson Division of that firm, with offices continuing in Moline.

William F. Mann, managing director of **Colloids of Carolina, Inc.,** has announced the opening of a new manufacturing unit at High Point, N. C.

Pennsylvania Salt Manufacturing Co., Philadelphia, Pa., has formed a public relations division, with Cleveland Lane as manager.

Two new lubricant warehouses have been established by the **New York & New Jersey Lubricant Company** at Columbus, Ga., and Greensboro, N. C., according to Falls L. Thomason, southern manager. J. A. Sorrells, Jr., has been transferred to the Charlotte (N. C.) division.

W. A. Lord has succeeded A. S. Hamilton, retired, as manager of the Providence, R. I., branch of **General Dyestuff Corp.**

Atlantic Chemical Co., Inc., Centredale, R. I., has appointed John A. Fanning to its sales staff. Mr.

Mr. Fanning

Fanning was formerly chief chemist at Brunswick Worsted Mills, Inc., Moosup, Conn.

Robert O'Blenis, associated with **E. I. du Pont de Nemours and Co., Inc.,** since 1915 and currently Philadelphia district sales manager of the firm's Acetate Division, has retired.

Sipp-Eastwood Corp., Paterson, N. J., announced the election of Howard W. Ruddick as vice-president. Mr. Ruddick has been with the company since 1933.

Herbert D. Bissell, formerly with The Electric Auto-Lite Co., Toledo, Ohio, was recently appointed executive in charge of the advertising, sales promotion, and merchandising departments of **Minneapolis-Honeywell Regulator Co.**

Gustavus J. Esselen has been appointed vice-president of the **United States Testing Co., Inc.** He will continue in active management of the Esselen Research Division of that firm.

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For more than half a century, Manufacturers of Circular Knitting Machines for Underwear, Outerwear, Dress Fabrics, T-Shirts—Polo Shirts, Fancy Rib Hosiery Tops, Knit Gloves, Fancy Knit Gloves.

H. BRINTON COMPANY

Kensington Ave. and M Street

Philadelphia 24, Pa., U. S. A.

Hilton-Davis Chemical Company, a division of Sterling Drug Inc., will be represented in New England by the newly formed **Claflin-Dorman Co.,** Boston, Mass., with headquarters at India Square and Storer Street. The Hilton-Davis line of dyestuffs and allied products will be distributed from this center.

The name of the Emeryville (Cal.) Chemical Co., a subsidiary of **Diamond Alkali Co.,** Cleveland, Ohio, has been changed to Diamond Alkali Company of California.

The **Fafnir Bearing Company,** New Britain, Conn., has acquired a building at 4006 York Road, Philadelphia, Pa., to house its branch office and warehouse stock. Thomas A. Savage is branch manager.

James B. Draper and Sons, Inc., has appointed John L. Stickley representative for the southern territory. Mr. Stickley has a general yarn and textile brokerage business with headquarters in the Commercial National Bank Building, Charlotte, N. C., and will continue to represent, in addition to this firm, the Whitman group of mills and Spun Fibers, Inc., Lenoir, N. C.

American Aniline Products, Inc., has announced the appointment of

Mr. Marshall

James J. Marshall as domestic sales manager.

Marshall & Williams Southern Corp. has appointed Joseph F. Smart sales engineer, with headquarters at 121 Welborn St., Greenville, S. C.

Stein, Hall & Co., Inc., has removed its Atlanta office to 80 West Peachtree Place, N.W., Atlanta, Ga.

The **Hemphill Co.,** manufacturers of the Banner automatic hosiery machines, now have sales agency representatives in Mexico and Africa. C. W. Johnson will have headquarters at Donceles 88—Despacho 107, Mexico, D. F. A. H. Marcuson & Co. (Pty)

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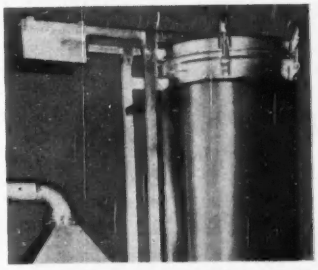
never accomplished before...

PACKAGE EXTRACTING & DRYING IN A SINGLE OPERATION IN 90 MINUTES



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- Easily Operated in Very Narrow Aisles
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ATLANTA PAPER CO. MOVES INTO NEW PLANT

This aerial view of Atlanta Paper Company's new plant, which was formally opened on Jan. 31, shows the expanse of the 275,000 sq. ft. structure.

The firm specializes in the production of corrugated boxes and folding cartons. Textile industry personnel will remember the firm as pioneers in the use of the Belsinger box for heavy shipping of all types.

Ltd, will be located in Johannesburg, South Africa. The company has also announced the addition to its service staff of Richard C. Greene, who will serve the southern hosiery mills from Hemphill's High Point, N. C., office.

Standard Steel Corporation has purchased the Drying Machinery Division of Hersey Manufacturing Co., Boston, Mass. Key personnel of the acquired organization will be retained, it has been announced.

C. Swan Weber, formerly manager of the branch office at Newark, N. J., has been appointed manager of the eastern district of the **Westinghouse Electric Corp.**, with headquarters in New York. Mr. Weber has been with Westinghouse since 1928.

K. P. Powers has been appointed chief fuels and lubricants engineer, textile section of industrial products engineering, with the **Gulf Oil Corporation**, Pittsburgh, Pa.

Georgia L. Irvine has been appointed manager of **General Electric Co.'s** newly organized Agency and Distributor Division. Mr. Irvine, with his assistant, R. D. Moore, will be responsible for the sale of all G-E apparatus department products.

Charles R. Rhodes has been appointed vice-president of **Meinhard, Greeff & Co., Inc.** Before becoming associated with the firm three years ago, Mr. Rhodes was with the Cleveland (Ohio) Worsted Mills Co.

Stowe-Woodward, Inc., Newton Upper Falls, Mass., has appointed Clyde W. Gray as executive vice-president. Mr. Gray was formerly with Ford, Bacon & Davis, industrial and management engineers.

Dr. R. C. Swain succeeds Dr. W. Albert Noyes, Jr., as chairman of the Committee on Chemical Warfare of the Research and Development Booard, Department of Defense. Dr. Swain is a vice-president of the **American Cyanamid Co.**

H. L. Bills was recently elected vice-president in charge of industrial relations for **Acme Steel Co.**, Chicago, Ill. Mr. Bills has been with the company since 1937, serving as director of industrial relations.

At a recent meeting of the board of directors of **International Business Machines Corp.**, Charles E. Love, general sales manager, was elected vice-president.

A. H. Pierce, manager of the Boston office of **General Dyestuff Corporation** and with the company since its inception, has retired. He is succeeded by Warren M. Dewing.

James Hunter Machine Company, North Adams, Mass., has purchased the **Thomas Leyland Machinery Co.**, Inc., Readville, Mass., manufacturers

of fabric expanders and cloth opening equipment, and will continue operation of the Leyland plant. New name of this recent amalgamation will be Thomas Leyland Machinery Division of James Hunter Machine Co.

C. A. Putnam, president of the **Markem Machine Company,** Keene, N. H., was recently made president of the National Association of Manufacturers.

Dr. George Zinzalian has been appointed sales manager of **E. F. Drew and Co., Inc.'s** technical products di-

Dr. Zinzalian

vision. His headquarters will be at the general offices of the Drew Company, 15 East 26th Street, New York, N. Y.

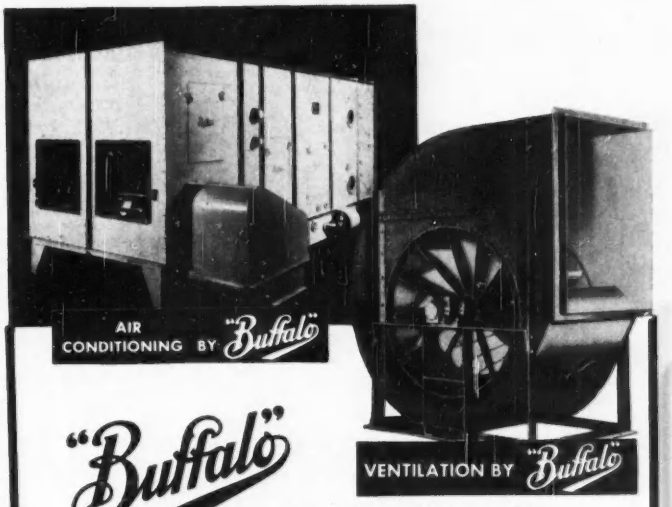
Peter D. Cooper, vice-president of **Celanese Corporation of America,** New York, N. Y., since 1945, has been elected a member of the board of directors.

The Minneapolis-Honeywell Regulator Co., **Brown Instruments Division,** has announced **seven** additions to its field staff, specializing in the sale of industrial controls, valves, and pyrometer supplies. Bruno Krause will have his headquarters in the branch office at Pittsburgh, Pa.; R. A. Schwarz, Minneapolis and St. Paul, Minn.; T. Sabottke, Hartford, Conn.; W. P. Ryan, East Orange, N. J.; D. Fritch, New York, N. Y.; C. Swanson, Detroit, Mich., and L. M. Crowe, Cleveland, Ohio.

The Chicago offices of **Glyco Products Co., Inc.,** of Brooklyn, N. Y., have been moved to 435 North Michigan Ave., Chicago 22, Ill.

The **American Viscose Corporation,** New York, N. Y., has announced the election of Gerald S. Tompkins as a vice-president of the firm. Mr. Tompkins has been with the company since 1919.

Which is your best buy?



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You can save trouble and expense by using Wissco Special Foundation. This waterproof foundation is tough, but very resilient; holds staples firmer; goes on the cylinder easier; permits up to 200 lbs. more tension; will not stretch or blister. And the smooth precision-set and ground staples in Wissco Card and Napper Clothing stay sharp longer, reducing nepping to a minimum.

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FOR COTTON, RAYON, WOOL, WORSTED, ASBESTOS AND SPECIALTIES

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An accurate and **complete revision** of these trades by a competent organization of specialists in directory making for more than 85 years!

Your purchasing department quickly secures competitive prices on any machine or supplies needed in a mill or on anything made by a Rayon, Nylon, or Silk manufacturer.

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24 Elastic Yarns and Covered Rubber Threads
37 Garnetting Mills—27 Lacing Mills
13 Glass and Metallic Yarn Mills
365 Hosiery Mills (Seamless)
757 Hosiery Mills (Full Fashioned)
178 Knitted Cloth Mills
33 Necktie, Muffler and Scarf Mills
213 Ribbon, Hat Band, Etc., Mills
29 Plastic Yarn and Fabric Mills
64 Label Mills—17 Line Mills
38 Rayon, Nylon and Other Synthetic Fibres and Yarns
478 Rayon, Nylon and Other Synthetic Fabrics; Also Blended Fabrics
109 Elastic Goods and Webbing Mills
23 Knitted Glove Mills
48 Plush and Velvet Mills
40 Sewing Yarn Mills—72 Thrown Silk and Synthetic Mills
46 Spun Rayon and Silk Yarn Mills
62 Spun Synthetic Fabric Mills
86 Knitted Sweater Mills
76 Tie Fabric Mills
9 Pile Makers
101 Knitted Underwear Mills
81 Veiling Mills—53 Covered Wire Mills

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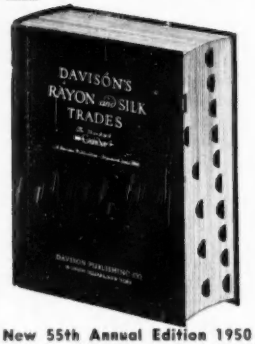

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Latest Information On Important Lines—

95 Commission Throwsters
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135 Winding, Spooling, Twisting, Etc.
563 Converters
593 Dyers, Finishers and Printers
106 Mills with Dye Houses
48 Raw Silk Importers, Agents and Dealers
523 Waste Dealers and Mfrs.
146 Spun Silk Yarn Dealers and Mfrs.
304 Spun Rayon, Nylon and Other Synthetic Yarn Dealers
578 Rayon, Nylon and Other Synthetic Fibres and Yarns, Dealers
298 Fine Cotton Yarn Dealers
45 Factors
322 Manufacturers Agents
36 Textile Designers
92 Tinsel Yarn Dealers
362 New York Offices of Mills
67 Grey Goods Brokers
97 Yarn Brokers

Important Sections as follows . . .

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First Listing of New Publications

3-1. Recording Viscometer. Bulletin No. V.1000A, eight pages in length, describes and illustrates the new Norcross recording viscometer for automatic "24 hour" control of viscocity in industrial plants. This instrument is designed to measure automatically the viscosity of solutions in the actual processes where they are used eliminating the necessity of periodically removing samples for laboratory tests. Norcross Corporation, Newton 58, Mass.

3-2. Hydrogen Peroxide. Solutions of 27.5%, 35,% and 50% concentration are described in a booklet just released. It contains a compilation of physical data and properties of hydrogen peroxide, lists a large number of its reactions in organic and inorganic chemistry, and enumerates its applications and uses. Becco Sales Corp., Station B, Buffalo 7, N. Y.

3-3. Small Motor Selection. The first page of this booklet explains why there are different types of fractional horsepower motors, and the factors to be considered in selecting the right motor for the application. The center pages, which open to form a large chart, present in tabular form the various types of small motors, together with complete data concerning horsepower range, speed characteristics, torque, etc. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

3-4. Woolen and Worsted Mills. This bulletin, No. 98199, concerns itself with instruments for woolen and worsted mills. It presents a number of ways in which instruments can be applied to different applications where time and temperature control are of utmost importance. A special section is devoted to dyeing which features new ideas in automatic control of temperature and time in piece, skein, top, package and raw stock dyeing. Taylor Instrument Companies, Rochester 1, N. Y.

3-5. Stainless Steel and Textiles. How can stainless steel be used to reduce costs and improve product quality? This question is answered in an attractive and informative bulletin now available. Service records of stainless equipment installations, ten to fifteen years old, show the value of this steel for the textile industry. An outline, based on these and other records, summarizes how stainless steel can be used to effect maintenance savings, lower operating costs, and reduce rejects. Armco Steel Corporation, Middletown, Ohio.

3-6. Floor Scrub-Wax-Polisher. The Model 12-W has an adjustable handle which permits the operator to raise or lower it to any angle within an 80 degree arc. In addition to all usual jobs of scrubbing and wax polishing, the new model will clean in congested areas and places where special hand cleaning has been necessary. S. C. Lawlor Co., 122 N. Aberdeen St., Chicago 7, Ill.

3-7. Stop Small Fires. "Stop Small Fires From Growing Up" is the title of a new booklet which contains information on the value of calcium chloride in use with emergency fire fighting equipment. Solvay Sales Division, 40 Rector Street, New York 6, N. Y.

3-8. Johnson Bronze. The 1950 edition of the company's industrial bearing catalog is now available. In addition to the regular line available on immediate delivery, the company has added several new electric motor bearings in response to the demands of the trade. Johnson Bronze Company, New Castle, Pa.

3-9. Rubber Linings and Tanks. Tables showing acids which can be safely and economically handled by rubber linings and which give storage tank dimensions ranging from those which hold 225 gallons to 30,000 gallons are a feature of the new six-page catalog section. Also described in the catalog is the process for locking rubber to metal. The B. F. Goodrich Co., Akron, Ohio.

3-10. Centrifugal Pump Installation. A revised instruction booklet on the installation and operation of centrifugal pumps in corrosive service has been issued. While dealing specifically with Durco-pumps, the information contained is applicable to all centrifugal pumps. Anyone having duties concerning this type of pump will find this booklet both helpful and interesting. The Duriron Co., Inc., Dayton 1, Ohio.

3-11. Continuous Oil Groover. Bulletin available which describes and illustrates this unit which provides fast, accurate grooving on bearings of every size and type with maximum production at a minimum unit cost. The Wicaco Machine Corp., Philadelphia 44, Pa.

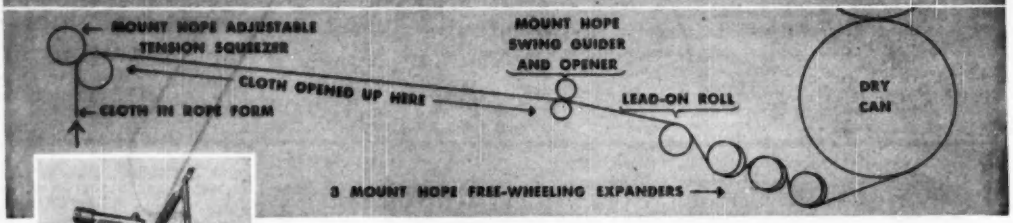
3-13. Synthetic Fiber. Dynel, a new synthetic fiber, is a staple fiber spun from a copolymer of acrylonitrile and vinyl chloride. It is strong, warm, and quick drying. It has good dimensional stability and is acid- and alkali-resistant, will not support combustion and is completely moth- and mildew-proof. Carbide and Carbon Chemicals Corp., 30 East 42nd St., New York 17, N. Y.

3-14. "Turbo-Drive." The problems of oxidation, emulsification, foaming and sludging, as related to turbine lubrication, are discussed in a 4-page folder recently issued by the manufacturer. E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa.

3-15. Synthane Plastics. A four-page folder describing the applications of laminated plastics in the textile industry is available. Products described include headless package tubes, precision bobbins and pirns, hosiery turning and examining forms, furnisher and other rolls, redraw caps, etc. For the nylon industry, the folder discusses sizing bobbins and caps, and Synthane piping for size machines. Synthane Corp., Textile Division, Oaks, Pa.

3-16. Warping Machinery. Wooden beam heads, warper beams, and warping machinery for all kinds of fibers are described and illustrated in a new catalog. Illustrations show breakdown of individual parts and parts numbers and specifications are given. Allen Company, 130 River Road, New Bedford, Mass.

GETTING MAXIMUM WIDTH *on Rayon Marquisettes*
As Practiced by a Well Known Finisher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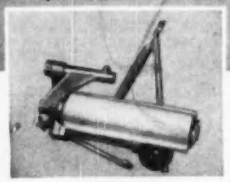

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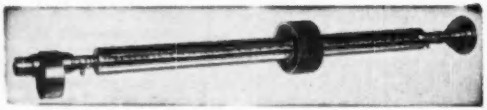

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138. MAGNESIUM IN THE TEXTILE INDUSTRY—Illustrated booklet on properties of magnesium for spinning, twisting, winding, knitting machines, looms, beams, spools, bobbins.—ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

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156. HUMIDIFICATION AND AIR CONDITIONING—Equipment described in Bulletin 333. Covers centrifugal humidifier, economizer atomizer, humulset unit air conditioning systems and central station air conditioning systems.—THE BAHNSON COMPANY, Winston-Salem, N. C.

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166. OAKITE PLANT MAINAENANCE DIGEST —A 16-page manual describing materials and methods for handling 54 recurring maintenance cleaning and related tasks in factories and mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

170. WHY IT PAYS TO ANCHOR YOUR TEXTILE MACHINES WITH UNISORB — Illustrated booklet discussing control of vibration and noise and how UNISORB reduces maintenance costs.—THE FELTERS CO., Boston, Mass.

172. VENTILATING FANS — Bulletin 3339 gives facts on Buffalo Ventilating Fans. — BUFFALO FORGE CO., Buffalo, N. Y.

179. TOLEDO SCALES — A condensed catalogue which illustrates and describes all of the principal types of weight control equipment used in the textile industry. — TOLEDO SCALE COMPANY, Toledo, Ohio.

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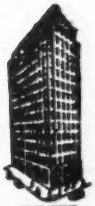

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212. GATES TEXTILE ACCESSORIES—Showing the increased efficiency and economy to be secured through the use of Gates cone belts, creeper belts, card bands and loom binder cushions.—THE GATES RUBBER COMPANY, Denver, Colo.

213. ELECTRICAL SPECIALTIES—Catalog No. S863, 64 pages, lists manual and magnetic motor control and accessories, safety switches, Multi-Breakers and electrical specialties.—CUTLER-HAMMER, INC., 361 N. 12th St., Milwaukee 1, Wis.

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216. LEATHER BOOKLET NO. 202—Attractive book illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

219. ROLLER CHAINS & SPROCKETS—Data Book No. 1957-A describes the Link-Belt Silverlink precision steel roller chain. Can be used on short centers at high ratios; can be applied to small fractional horsepower machines or to units involving more than a thousand horsepower.—LINK-BELT COMPANY, 307 N. Michigan Ave., Chicago, Ill.

235. JOHNSON LEDALOYL BEARIN GBRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc. will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

244. TEXACO SPINDURA OILS—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

263. NEEDLE ROLLER BEARING—Catalog Engineering and Application Data Edition 32 contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities including textile uses, types, installations, lubrication, etc. — TORRINGTON COMPANY, Torrington, Conn.

264. NEW DEPARTURE SHOP MANUAL—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

265. INTERCHANGEABLE BALL BEARING FOR REPLACEMENT—Charts showing numbers used by manufacturers to identify bearing charactertistics, also information on specifications.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

269. LUBRICATION AND MAINTENANCE OF BALL AND ROLLER BEARINGS—Illustrated bulletin describing efficiencies and economies of NON-FLUID OIL for all types ball and roller bearings.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

271. CARDING, SPINNING AND WEAVING LUBRICATION—Informative bulletin describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

275. HYATT ROLLER BEARINGS—A 16-page bulletin giving details of the application of roller bearings to all types of textile machinery.—HYATT BEARINGS DIV., General Motors Corp., Harrison, New Jersey.

276. SPEED CONTROL—Bulletin 20H6051G describes Texrope variable speed drives. — ALLIS-CHALMERS MFG. CO., Milwaukee 2, Wis.

INSTRUMENTS, STEAM SPECIALTIES . . .

300. TIME SAVED WITH STEAM CLEANING—Illustrated folder enumerates the important time, cost and work economies obtainable with steam-detergent cleaning. Lists specific job applications of this method in textile mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

303. PROCESS CONTROL EQUIPMENT—New textile catalog contains brief descriptions of standard and special process control equipment engineered for textile industry. Includes schematic diagrams.—MASON NEILAN REGULATOR CO., Boston, Mass.

307. THERMOMETER AND PRESSURE GAUGES—Catalog 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

311. PIPING POINTERS—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips. — CRANE CO., Chicago, Ill.

314. MOISTURE CONTENT CONTROL—Bulletin F-1705-1 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

315. CONTROL INSTRUMENTS FOR TEXTILE PROCESSES—32 page illustrated booklet describing controls for such processes as slashing, dyeing, bleaching, kier boiling, drying, air-conditioning, etc. —BROWN INSTRUMENT CO., Philadelphia, Penna.

316. HYDRAULIC POWER UNITS—Literature describing hydraulic unit, motor, pump reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

319. GUIDE TO CORRECT INSTRUMENT SELECTION—This completely revised edition gives a comprehensive bird's-eye view of the companies' entire instrument line. Bulletin 98170. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

320. OAKITE POWER PLANT DIGEST—A 20-page manual describing materials and methods for handling 71 cleaning, degreasing, descaling, derusting, paintstripping and related operations encountered in power plants.—OAKITE PRODUCTS, INC., New York 6, N. Y.

321. RED-RAY BURNERS—Bulletin describing use of Red Ray Burners in preheating and partial drying to increase capacity of frame.—RED RAY MFG. CO., New York, N. Y.

324. STROBOTAC—Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills."—GENERAL RADIO CO., Cambridge 39, Mass.

CARDING, SPINNING, WINDING . . .

400. THE TRAVELER—Booklet on ring travelers published quarterly with a technical article on spinning and twisting of interest to mill men.—VICTOR RING TRAVELER CO., Providence, R. I.

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS—24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

403. WINDING MACHINES—PRINCIPLES AND PRACTICES—This series has been running for some time in TEXTILE INDUSTRIES and has now been made available in booklet form for those in the industry who desire copies.—UNIVERSAL WINDING COMPANY, Providence, R. I.

404. LAPLESS ENDLESS SPINNER—Bulletin and full information will be supplied on lapless endless spinner and coning belting.—TON-TEX CORPORATION, 18 West 61st St., New York, N. Y.

408. CARD GRINDING INFORMATION—Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information.—B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

409. ROTO CONER—Bulletin describing Universal rotary traverse winder, known as the Roto Coner, producing open wound cones or knitting and warping; parallel tubes for package dyeing, twisting, and sale yarn.—UNIVERSAL WINDING CO., Providence, Rhode Island.

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414. WORSTED SPINNING—Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages.—SACO-LOWELL SHOPS, 66 Batterymarch St., Boston 10, Mass.

415. THE BRIEF SAGA OF THE RING TRAVELER—An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of the ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. — NATIONAL RING TRAVELER CO., Pawtucket, R. I.

417. SAGA OF THE RING TRAVELER—Part II of this interesting history is now available.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

419. TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

420. AUTOMATIC FILLING WINDING — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder. — ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. AUTOMATIC WINDERS—Folder describing latest winding equipment with full automatic operation. Only one automatic hand for up to 100 spindles.—ABBOTT MACHINE CO., Wilton, N. H.

422. MODERN TEXTILE ROLL COVERING—Illustrated booklet on roll covering problems with chart on correct usages. Also data on Acotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

423. TEXTILE SHEET METAL PRODUCTS — Folder on cylinders, card screens, licker-in screens, repair work.—JENKINS METAL SHOPS, INC., Gastonia, North Carolina.

427. WINDING AND CREELING WARP YARNS —Universal's Bulletin No. 442 contains an interesting treatment of the subject.—UNIVERSAL WINDING COMPANY, Providence, R. I.

428. PNEUMATIC ROLL PICKER—Attractive bulletin descriptive of the "Amoskeag" roll picker that removes fly and lint from the top rolls and other drafting elements in spinning and roving frames.—M-B PRODUCTS, Detroit, Mich.

429. HYGROLIT YARN CONDITIONING SYSTEM—Illustrated folder No. 901A describing the Hygrolit process of chemical yarn conditioning.—KEARNY MFG. CO., INC., Kearny, N. J.

430. "SLIXONICS" BEARINGS—Folder is available on this new frictionless bearing that never needs lubrication.—DIXON LUBRICATING SADDLE COMPANY, Bristol, R. I.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

437. SPINDLE TAPE LACING EQUIPMENT—Circular No. 54 illustrating and describing the Clipper method of joining spindle tapes.—CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

440. SADDLES—Leaflet showing a few of the over 400 different types of saddles for both conventional and long draft spinning and roving frames.—DIXON LUBRICATING SADDLE CO., Bristol, Rhode Island.

441. SKF BALL BEARING TENSION PULLEY FOR SPINNING FRAMES — Attractive illustrated folder outlining the value of anti-friction bearing Tension Pullers for all types of spinning frames.—SKF INDUSTRIES, INC., Philadelphia, Pa.

443. COMPARATIVE YARN TABLE—Chart giving woolen number (cut and run system), also cotton worsted and metric system; also, Comparative Rayon Denier Yarn Table.—VICTOR RING TRAVELER CO., Providence, R. I.

446. ROLLER BEARING SPINDLES—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., Cleveland, Ohio.

447. CONE WINDER—Form A96 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, wraps cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

451. CYLINDER BEARING—New bulletin available describing and illustrating the cylinder bearing for spinning frames and twisters. This bearing fits all popular makes and is self-aligning.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Georgia.

454. CARD AND PICKER BEARINGS — Four-page, two-color folder which describes this manufacturer's ball and roller bearings for cards and pickers.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

WEAVING, SLASHING . . .

502. TEXTILE COUNTERS—Catalog T-48 describing pick counters for looms, hank counters for spinning, yardage counters for cloth room, etc. — VEEDER-ROOT, INC., Hartford, Conn.

507. SLASHER PRODUCTION—GN-498, new bulletin on slasher production, describing how quality yarn can be improved through the use of this company's variable speed equipment to automatically control and regulate the speed of the main drive, beam drive and stretch control of the slasher.—REEVES PULLEY COMPANY, Columbus, Ind.

508. LOOM PRODUCTION CHARTS—Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds.—RALPH E. LOPER CO., Greenville, S. C.

510. THE ROMANCE OF PRAIRIE GOLD—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

513. SEYCO PENETRANTS FOR YARN CONDITIONING—Folder describing the scientifically formulated Seyco sizing. — SEYDEL-WOOLLEY & CO., Atlanta, Ga.

515. TEXTILE COUNTERS—Catalog No. 50 illustrating and describing complete line of Productimeter Loom Pick Counters; Hank Counters; Yardage, Electric and Predetermined Counters; Tachometers, etc. — DURANT MANUFACTURING CO., Milwaukee 1, Wisconsin.

516. WEAVE ROOM ACCESSORIES—Weave-room accessories catalog and literature on new plastic bronze bearing sheave, which solves a troublesome weave room problem.—EMMONS LOOM HARNESS COMPANY, Lawrence, Mass.

517. LOADING SYSTEM—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices.—THE FOXBORO COMPANY, Foxboro, Mass.

518. NIAGARA TWIST-SETTER—Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. This yarn is sprayed from all sides to afford maximum economy.—SEYDEL-WOOLLEY & CO., Atlanta, Ga.

519. WOODEN BEAM HEADS, WARPER BEAMS, AND WARPING MACHINERY FOR ALL FIBERS—62-page illustrated booklet descriptive of and giving specifications for the Allen line of beam heads, warper beams, warping machinery, stop motions and cloth rolls.—ALLEN COMPANY, New Bedford, Mass.

520. PNEUMATIC LOADING SYSTEM—Bulletin 418 contains installation photo, features, specifications and prices for pneumatic loading system for Charles H. Johnson Machine Works slasher squeeze rolls.—THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS—20 page catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broadloom and narrow fabrics. Also Textile Machinery Specialties.—MILTON MACHINE WORKS, INC., Milton, Pa.

522. OVERHEAD MOUNTS FOR BIGGER LOOM BEAMS—Folder illustrating and describing how bigger beams can be adapted under all mill conditions. Includes handy Multiplier Table showing increased yarn capacity possible with bigger beams.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

524. JOHNSON WARP SIZES—12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis.—CHARLES B. JOHNSON MACHINE WORKS, Paterson, N. J.

525. GATES LOOM ACCESSORIES — Catalogs MRG-418, MRG-421, MRG-422 describe the advantages of lug straps, harness straps and drop box pickers made from a remarkable new material called Tex-Hide. Catalog MRG-419 describes the advantages of a new "Tractive-Rib" take-up roll covering.—GATES RUBBER CO., Denver 17, Colorado.

528. PARTS CATALOGS FOR WPF&M SLASHERS, SIZE KETTLES AND PUMPS—This 42-page illustrated catalog of parts contains exploded views and part numbers for quick identification.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

529. STRAPPING — Looms and harness strapping complete line. Full information supplied on request. —TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

530. ROTARY UNIONS—New catalog shows how to cut costs, get better sealing, on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count."—PERFECTING SERVICE COMPANY, Atlanta Ave., Charlotte, N. C.

531. EVENNESS TESTER—Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. —USTER CORPORATION, Charlotte, N. C.

DYEING, FINISHING, CLOTH ROOM . . .

599. BIOLOGICAL ASPECTS OF INSECT DAMAGE TO WOOL—Booklet giving complete picture of insect damage to wool from biological standpoint.—GEIGY CO., INC., New York 8, N. Y.

602. ALUMINUM IN THE CHEMICAL INDUSTRY—Published by Aluminum Company of America. Seventy-eight pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses. — ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

605. CONTINUOUS AUTOMATIC EXTRACTING MACHINE — Folder describing the most efficient method of extracting excess liquid from fibrous materials.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY—Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Preboarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

611. BRUSHING AND SHEARING MACHINES—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

612. WET GOODS TRUCK—Illustrated bulletin which describes fully this stainless steel wet goods truck. Complete specifications and information given. —S. BLICKMAN, INC., Weehawken, N. J.

613. RADIANT HEAT IN TEXTILE INDUSTRY —New illustrated book on uses of radiant heat, data on fuel consumption, evaporation, etc. — RED-RAY MFG. CO., New York, N. Y.

614. STRIPS IN ROLLS—Form No. CF-643 illustrated folder showing over 25 slitters and roll winders for textile use.—CAMERON MACHINE CO., Brooklyn, New York.

616. ENGINEERING PROPERTIES OF MONEL—Technical Bulletin T-8, giving detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data on Monel Metal. — INTERNATIONAL NICKEL CO., INC., New York, N. Y.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING—Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

622. FILT-R-STIL—Attractive illustrated booklet describing the FILT-R-STIL method of chemically purifying water.—AMERICAN CYANAMID & CHEMICAL CORP., New York 20, N. Y.

625. BALL BEARING ROLLER TYPE SCRAY—Circular No. 904 describing the scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

626. GUIDER AND GUIDING EQUIPMENT—This booklet entitled "Mount Hope Precision Guider and Guiding Equipment" describes this latest development in guiding equipment. The new guider, it is claimed, makes possible automatically controlling the lateral movement of cloth within closer limits than ever before possible.—MOUNT HOPE MACHINERY CO., Taunton, Mass.

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627. SINGLE APRON STOCK DRYER—Folder presenting the latest ideas in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. STAINLESS STEEL WARE—New data sheets available on this line of stainless steel pails, dippers, buckets and Blickman-Built fully enclosed stainless steel Dye Pot.—S. BLICKMAN, INC., Weehawken, N. J.

630. VAT DYEING OF WOOL—Write for Calco Technical Bulletin No. 797 outlining fundamental dyeing procedures, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook N. J.

632. LUG STRAP WASHERS—Series 1-C illustrated bulletin detailing right and wrong application and use of washers.—E. H. JACOBS NOETHERN DIVISION, Danielson, Conn.

633. CUTTING MACHINERY FOR THE TEXTILE INDUSTRY—Catalogue describing band to fully automatic machines which will measure to length, cut and stack many varied materials.—RAPADONE MACHINE COMPANY, Inc., 10 East 43rd St., New York, N. Y.

636. TENSITROL WASHER — The "Tensitrol" principle is described as a "variable traction of all the drive rolls on the fabric, the amount being determined automatically by the behavior of the cloth itself as it travels through the machine." New bulletin explains in text and illustrations this principle. —RODNEY HUNT MACHINE CO., Orange, Mass.

DYESTUFFS, CHEMICALS, SOAPS . . .

706. THEORETICAL AND APPLIED SILK-SOAKING—Attractive 32-page booklet outlining methods of silk-soaking and outlining investigation on the making, back-winding and degumming of silk.—HART PRODUCTS CORP., New York City.

710. HERCULES PINE OILS—Leaflet briefly describing advantages of using this manufacturer's oil in wet-processing of textiles.—HERCULES POWDER COMPANY, Wilmington, Del.

712. VANDERBILT MATERIALS—Available is a 6-page booklet describing non-toxic fungicides, and their use in textile operations.—R. T. VANDERBILT CO., INC., New York, N. Y.

713. LIGVATINE ED—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, New York City.

715. AQUAROL AND ARKANSAS PRODUCTS—Bulletins on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and rayon hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

717. FINISH KB—Finishing compound designed as binder in combination with filling and stiffening compounds. Avoids dusting, lumpy dropping qualities. — SANDOZ CHEMICAL WORKS, New York.

729. SYNTHETIC FIBERS — Attractive folder briefly describing the company's products used in the manufacture of synthetic fibers.—HERCULES POWDERS COMPANY, Wilmington, Del.

738. LEVELENE—Booklet describing use of Levelene for leveling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

745. RAPIDASE FOR DESIZING—Bulletin explaining in detail the properties and characteristics of Rapidase.—WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. LUPOMIN G—Pamphlet outlines the application of the quaternary ammonium compound recommended for treating natural and synthetic fibres to give soft hand, lubrication, odorless finish, brighter shades, etc.—JACQUES WOLF & CO., Passaic, N. J.

753. LUPOMIN—Leaflet outlines the advantages of the cationic active softener which is suitable for use on cotton, linen, silk, wool, synthetic fibres and mixed fabrics. A small percentage of lupomin gives a supple, smooth hand. — JACQUES WOLF & CO., Passaic, New Jersey.

756. TEXTILE SPECIALTIES—Listing and describing a wide and complete range of specialties manufactured and sold by American Cyanamid Company formulated in the laboratories of its chemistry.—AMERICAN CYANAMID COMPANY, 30 Rockefeller Plaza, New York 20, N. Y.

762. ONYX TECHNICAL DATA SHEETS—Two new data sheets describing the use, advantages, and applications of Xyne Resins S 69 and Xyne Resin 3942.—ONYX OIL & CHEMICAL COMPANY, Jersey City 3, N. J.

765. HOSIERY FINISHES AND FORMULAE—Attractive new booklet describes the Amalgamated line of hosiery finishes and giving numerous finishing formulae.—AMALGAMATED CHEMICAL CORPORATION, Philadelphia 34, Pa.

766. DU PONT PEROXIDE BLEACHING SYSTEMS—New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

768. TEXTILE CHEMICALS—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition.—AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

769. SURFACE TENSION DEPRESSANT — The Booklet, "Mercerizing and Abramorse—The Ideal Dry Mercerizing Penetrant," introduces a new product which can be used as a wetting agent; a dry jerking penetrant in package dyeing.—HART PRODUCTS CORP., New York, N. Y.

771. "STARCH STABILIZER" — Folder on Vanesta, a product used for textile sizing and printing, discussing stabilization and the results obtained. —E. T. VANDERBILT CO., New York 17, N. Y.

773. TECHNICAL CHEMICAL DATA SHEETS—Complete set for dyeing, printing and finishing operations, showing major operations, performance and advantages.—ONYX OIL & CHEMICAL CO., Jersey City 3, N. J.

774. ROYCE TEXTILE CHEMICALS—This booklet briefly describes the leading Royce products for textile processing printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

775. CAUSTIC SODA—Bulletin No. 6, an 86-page technical bulletin, is the latest in Solvay's well-known series. The text is profusely illustrated with photographs, tables, graphs and diagrams.—SOLVAY SALES DIVISION, 40 Rector Street, New York 6, New York.

776. SERIZYME—Bulletin describing the properties and characteristics of Serizyme, a standardized liquid, proteolytic enzyme preparation which can solubilize various types of protein substances.—WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N. Y.

777. HOSIERY DYEING—Catalog on hosiery dyeing machinery, skein dyeing machinery, package dyeing, extracting and drying equipment. — SMITH, DRUM AND CO., Philadelphia 32, Pa.

KNITTING . . .

801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

803. THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., Philadelphia, Pa.

809. TEXACO IN THE KNITTING INDUSTRY—Folder on knitting oil lubrication.—THE TEXAS CO., New York, N. Y.

810. ALUMINUM BEAMS—Catalog No. 1-51 describes Hayes magnesium and aluminum specialties for the textile industry, illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

812. CIRCULAR KNITTING MACHINES—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Philadelphia 34, Pa.

815. THE NEW REINER HIGH SPEED TRICOT MACHINE—162" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance. — ROBERT REINER, INC., Weehawken, N. J.

816. THE NEW REINER KAYLOOM—A combination Knitting Weaving Loom, featured in an illustrated catalog, showing filler attachment and other important points about this machine. — ROBERT REINER, INC., Weehawken, N. J.

817. AUTOMATIC SELECTIVE STRIPPING MACHINE—Descriptive and illustrative folder, entitled "If It's Stripes, Consult Brinton," now available. Unusual mechanisms involved in this process are described.—H. BRINTON COMPANY, Philadelphia, Pennsylvania.

818. MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION — Catalog 45-A describing Light Metal Tricot Beams made in Standard and Special sizes plus Special Purpose Light Metal Textile Equipment.—MILTON MACHINE WORKS, INC., Milton, Pa.

820. VARIABLE STRIPES AND PLAIDS — Booklet describing Supreme Models SA and SA-BOF Stripers for knitting plaids, checks, "Toulees" designs and variable stripes.—SUPREME KNITTING MACHINE CO., INC., Brooklyn 6, N. Y.

822. HIGH SPEED JERSEY CIRCULAR MACHINE—Complete illustrated brochure showing features and highlights of this 160 yard per hour producer. Also available — New Cylinder Chart.—SUPREME KNITTIN GMACEHINE CO., INC., 105 Johnson Ave., New York.

SEWING MACHINES . . .

915. THE NEW UNION SPECIAL LOCKSTITCH MACHINE—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 256.—UNION SPECIAL MACHINE CO., Chicago 10, Ill.

921. FELDLOCK "DUALFEED" MACHINE—Bulletin No. 802, illustrating and describing the heavy duty feed-off-the-arm felling machine for overalls, work pants, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

936. FLAT BED SEAMING MACHINE—Full information contained in Bulletin No. 256 on Type 1101 "W & G" Flat Bed Seaming Machine.—WILLCOX & GIBBS SEWING MACHINE CO., New York 18, N. Y.

MATERIALS HANDLING . . .

1001. HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY—Illustrated booklet. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.— CLEVELAND TRACKAIL DIV., Wickliffe, Ohio.

1002. CATALOG NO. 22—An attractive illustrated catalog describing in detail the advantages of shipping containers and the new canvas trunks for textile use.—MEEKER, INC., Madison, Ind.

1003. CASTERS AND WHEELS—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1005. BASKETS, HAMPERS & TRUCKS—This 24-page catalog is profusely illustrated and contains complete descriptions on the Pandux line, especially designed for the textile industry.—C. B. DANIELS, INC., Daniels, Md.

1006. LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

1008. CASTERS AND WHEELS—An illustrated booklet with complete specifications showing a complete assortment. Textile Casters.—THE COLSON CORP., Elyria, Ohio.

1010. CONVEYOR KEY BOOK—A guide to production "step-ups" now possible with modern conveying methods time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN COMPANY, INC., Louisville, Ky.

1023. CAB-OPERATED AND FLOOR-OPERATED ELECTRIC HOISTS—Bulletin No. 127 describing and illustrating electrical hoists of various capacities.— SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1027. SINGLE BEAM CRANES—Bulletin No. 130 describing and illustrating the single beam type of overhead traveling crane.—SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, N. Y.

1029. HOLLOW WARE—This 32-page catalog R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item.—CONTINENTAL-DIAMOND FIBRE CO., Newark 98, Del.

MISCELLANEOUS . . .

1101. AUTOMATIC BOBBIN REFINISHER—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 30th St., Milwaukee, Wis.

1102. BALING PRESSES—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS—Illustrated 16-page booklet No. 570 gives data on Unbrako ballnose pat screws with knurled point, and locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1104. INTERPRETATION OF ANALYSIS — In consulting this brief collection of terms which most frequently appear in analysis of surface active chemicals, an attempt has been made to explain as clearly as possible the meaning of these terms to those who have had little or no chemical training. —NOPCO CHEMICAL CO., Harrison, N. J.

1107. AUTOMATIC QUILL POLISHER—Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at minimum labor cost.—J. M. NASH CO., 2300 N. 30th Street, Milwaukee 10, Wis.

1108. FABRICATION OF U. S. STAINLESS STEELS—136-page book covering use of stainless steel in textile equipment, from cutting to cleaning. Includes corrosion resistance tables for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1111. BRUSHES—A 24-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1114. SCOTCH TEXTILE TAPES — Four page brochure containing photographs and descriptive information on the many uses for pressure sensitive Scotch tapes in the textile industry.—MINNESOTA MINING & MFG. CO., St. Paul, Minn.

TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

Please send me, without obligation, free booklets or further information on New Equipment items described in the March, 1950, issue of TEXTILE INDUSTRIES.

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PERSONAL NOTES

ABOUT MEN YOU KNOW

Wellington Sears Co., Inc., has announced the election of **Lloyd A. Sarty** as vice-president in charge of converted goods. Mr. Sarty has been with the firm since 1919.

William Muir has succeeded **Francis W. White** as resident manager of American Woolen Company's Wood Mill at Lawrence, Mass. Mr. White has become vice-president in charge of the worsted division. Succeeding Mr. Muir as resident manager of the Winooski, Vt., mills is **John O'Brien,** formerly assistant resident manager.

James Brown has been named assistant manager of the Renfrew Bleachery, Greenville, S. C. Succeeding him as superintendent is **Creighton D. Griggs,** formerly with the Fairforest Finishing Co. of Spartanburg, **S. C.**

Succeeding the late R. Horace Johnston, **Harvey W. Moore** was recently elected president and treasurer of Brown Manufacturing Co., Concord, N. C., and its subsidiary, Roberta Manufacturing Co. **L. Maury Richmond** was named vice-president and **J. Conrad Hill** was re-elected secretary and assistant treasurer. Replacing Mr. Johnston on the board of directors is **T. W. Church, Jr.,** executive vice-president of the Highland Park Manufacturing Co., Charlotte, N. C.

The Monroe (Ga.) Cotton Mills has announced the election of **Lewis C. Radford** as president and treasurer, succeeding the late Charles M. Walker. **E. S. Summer** was named vice-president and general manager, and **Wilson B. Mitcham** has assumed the office of secretary.

William H. Lorimer, associated with Baker-Cammack Hosiery Mills, Inc., Burlington, N. C., since 1938 and currently vice-president of the company, has resigned to operate his own firm, Lorimer Hosiery Mills, in Burlington. **Clayton Cammack** has assumed Mr. Lorimer's position as vice-president and **Clive Schoffner** succeeds Mr. Cammack as secretary.

Gordon Pannill, while retaining his active status as president of the Pannill Knitting Co., Inc., and Pannill Walker Underwear Co., Martinsville, Va., and vice-president of Virginia Underwear Co., Martinsville, and Bassett Walker Knitting Co., Bassett, Va., has resigned as active sales manager of these four firms.

Emory L. Cocke, vice-chairman of Exposition Cotton Mills Co., Atlanta,

Mr. Cocke

Ga., was recently elected a director of The First National Bank of Atlanta.

Lonsdale Co., Providence, R. I., has announced the appointment of **Howard T. Downey** as general superintendent of its Blackstone Mill and Berkeley Mill Divisions. **William P. Tukey** succeeds Mr. Downey as head of the firm's time study and standards departments.

James M. Myers has resigned as superintendent of North Carolina Finishing Co., Salisbury, N. C., to enter sales work as technical consultant in the use of dyestuffs.

John A. Spooner has announced his resignation as director of advertising and public relations of Burlington Mills Corp., New York, N. Y. **A. Stanley Kramer** will take over Mr. Spooner's duties in the advertising department, and **Paul Menneg** becomes public relations manager.

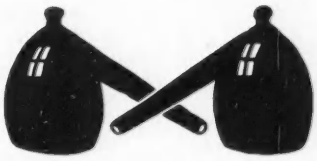
At its 12th annual meeting in Memphis recently, **Harold A. Young** was re-elected president of the National Cotton Council. Mr. Young, a cotton producer of North Little Rock, Ark., has headed the Council since January 1948.

The Hogansville, Ga., division of the United States Rubber Company

STODGHILL & COMPANY

TEXTILE CHEMICALS

ATLANTA



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Ends Tedious COUNTING

gives fabric counts

accurately, directly, without eyestrain

FAR SUPERIOR to the slow, old-fashioned method, the new Micro-Line Counter *does away with the tedious work of counting individual threads . . . saves time . . . eliminates the torture of eyestrain . . . prevents errors in count.*

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has announced the promotion of **D. R. Walls** from head card fixer in the carding and spinning department of the Asbeston plant to assistant overseer of that department. Also, **Jim Martin** has been promoted to shift supervisor from head fixer in the mechanical yarn department.

Frank M. Titelman, former secretary-treasurer, has been elected president of Puritan Knitting Mills, Inc., Altoona, Pa. **J. Richard Titelman** was named vice-president, and **E. Robert Titelman** is the new secretary-treasurer. **David L. Titelman,** former president, has announced his retirement from the firm.

Robert F. Jessen, formerly with Frank Ix & Sons, Cornelius, N. C., is now the new products director at American Yarn & Processing Co., Mt. Holly, N. C. Some of his duties at Frank Ix & Sons will be handled by **Clifford H. Ashley,** who comes from the Aberdeen (N. C.) division of Robbins Cloth Mills, Inc., to become manufacturing consultant.

The United States Department of Agriculture has announced the appointment of **Morton O. Cooper** as assistant to the Livestock Branch director. **John A. Goe** has been named Wool Division chief.

Succeeding **Frank M. Richardson,** resigned, **Gerald E. Amerman** has become vice-president and managing director of Cluett, Peabody & Co. of Canada, Ltd., with headquarters in Toronto, Ontario.

The National Association of Manufacturers has announced the appointment of **Albert E. Noelte,** treasurer of Priscilla Braid Co., Central Falls, R. I., as chairman of the Patents and Research Committee. The committee will study proposals for strengthening the nation's patent system and for expanding research.

Preston David has been promoted to assistant superintendent (second shift) of dyeing and finishing at Riegel Textile Corporation's Trion Division. Succeeding Mr. David as overseer is **Max Ferguson,** formerly assistant overseer. **Robert Allen** has been named overseer of the carding department in the grey mill. **W. A. Pearson,** formerly with Dixie Mills, Inc., LaGrange, Ga., is now second shift assistant superintendent in the grey mill.

Milton C. Mumford, vice-president of Marshall Field & Co. and connected with the firm since 1935, has been named corporate executive in charge of the Fieldcrest Mills. **Luther M.**

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TRUCKS

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BAGS
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C. R. DANIELS, INC.
DANIELS, MARYLAND

Hodges continues as a vice-president of the company and general manager of the mills. **E. W. Medbery** has been appointed production manager of the mills, and **Jones W. Norman** has been named personnel director.

Julius G. Forstmann was recently elected president of Forstmann Woolen Company, succeeding Curt E. Forstmann, deceased.

Charles K. Everett was recently appointed as head of the New York textile and related products department of H. B. Humphrey Company. Mr. Everett for many years was director of merchandising of the Cotton-Textile Institute.

Mr. Everett

James L. Marlowe of Fieldcrest Mills, Spray, N. C., was recently promoted from foreman of the wool picking department at the Blanket Mill to superintendent of the new Electric Blanket Mill. **J. C. Harraway** takes over the duties of foreman, and **Marvin H. McMichael** succeeds Mr. Harraway as assistant foreman of the wool picking department, second shift. **Ernest L. Smith** is now assistant foreman of the spinning and spooling department of the Blanket Mill, and **Raymond Hopkins** is assistant foreman, third shift, in the Blanket Mill Jack Spinning Department.

William J. Brooks, formerly employed in the dye house, was recently made production supervisor at the Valway plant of Callaway Mills, LaGrange, Ga.

George H. Turner has recently become associated with the American Yarn & Processing Co. as overseer carding in the Dixon plant at Gastonia, N. C.

The Fulton Bag & Cotton Mills have announced the election of **William R. Elsas** as president, succeeding **Norman E. Elsas,** who has become chairman of the board of directors. The former board chairman, **Benjamin Elsas,** is now chairman of the executive committee.

Fred C. Slate succeeds **Frank Gilders,** retired, as overseer of the dressing and slashing department of the American Woolen Company's mill at Fulton, N. Y.

John F. Greene, formerly general superintendent at Wamsutta Mills New Bedford, Mass., is now vice-president of Caledonia Mills, Lumberton, N. C. Succeeding Mr. Greene is **William Oothout,** who had been superintendent of weaving.

Obituaries

Howard C. Hatch, 42, of Elkin, N. C., died recently. He was chief chemist for the Chatham Manufacturing Co.

Edwin A. Hill, of Anderson (S. C.) Weavers Inc., died recently. Mr. Hill was also associated with W. H. Hartzell in the operation of Anderson Narrow Fabrics.

Nathan Prentice Payne, associated with the Charlottesville (Va.) Woolen

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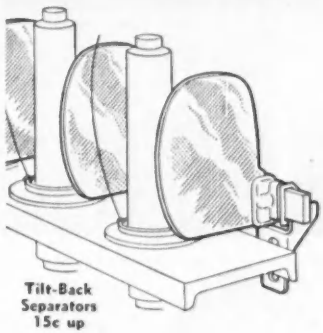
ALUMINUM ALLOY SEPARATOR SHIELDS

Why burden your frames—and your overhead—with heavy, old-fashioned iron separator shields? Whitehead Permalite Shields are made of a special aluminum alloy—strong as steel but many times lighter. They mount right on the ring rail and can be flipped back for doffing . . . And with all their superiority, they cost no more!

EASY TO INSTALL Simply drill and tap ring rail. We supply the shields and bar drilled to your gauge and ring count, together with proper support hangers and all screws and washers.



Tilt-Back Separators 15c up

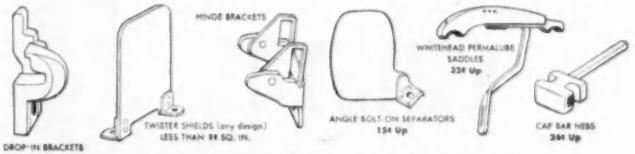
Stainless Steel Available for Rayon Spinning

EACH JOB ENGINEERED When ordering specify rail width, thickness of back flange, gauge and number of rings in each rail on one side only, as 24-22-22-22-24.

ONLY WHITEHEAD PERMALITE SHIELDS OFFER THESE ADVANTAGES

- Fewer ends down: some mills report 27% less
- Use of lighter travelers which reduce power costs, wear of rings and travelers
- Solid polished blades (not slotted) which cause less wear on yarn, collect less lint and fly, resulting in smoother yarn
- Less vibration, wear of cams, worm gears and lifter-rod bearings
- Reduction of live weight—from as much as 300 lbs in old slotted steel shield assemblies to as little as 35 lbs per frame
- No attention after installation

OVER 4,000,000 IN USE BY MORE THAN 350 AMERICAN MILLS


HINGE BRACKETS
WHITEHEAD PERMALITE SADDLES 32¢ Up
DROP-IN BRACKETS
TWISTER SHIELDS (any design) LESS THAN 24 SQ. IN.
ANGLE BOLT-ON SEPARATORS 13¢ Up
CAP BAR WEBS 34¢ Up

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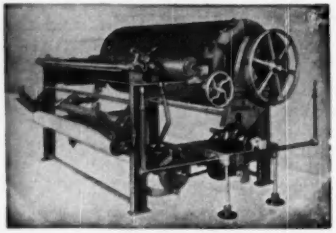

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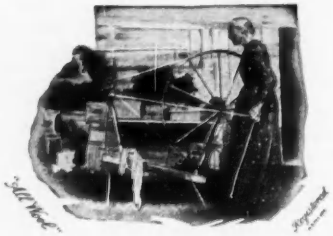
1. Gives more life to the goods in both appearance and "feel".
2. Adds permanent lustre, not gloss or shine, but brightness and clearness of color.
3. Removes wrinkles and cockles.

Ask us more about it

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS



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Used in hundreds of textile mills to give a continual, visual picture of humidity and temperature. Easily carried, set on table, or hung on wall.
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Please send Bulletin on Portable Humidity and Temperature Recorder.
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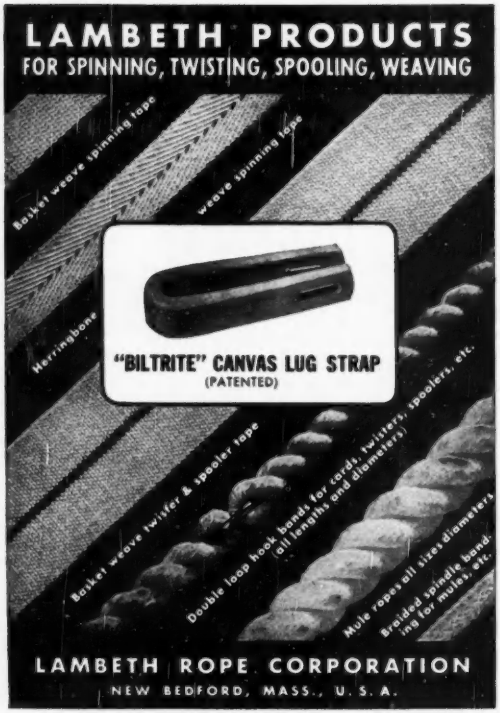
LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING
Basket weave spinning tape
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Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & speeder tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.
LAMBETH ROPE CORPORATION
NEW BEDFORD, MASS., U. S. A.

Mills for the past twelve years, died in January at the age of 72.

John T. Stevens, 80, died on January 19, in Kershaw, S. C. Mr. Stevens was a vice-president of Springs Cotton Mills, Inc.

After an illness of about two months, **Alexander F. Hobbs,** former president of New York Mills Corp. and Oneida Bleachery, Inc., died at his home in Utica, N. Y.

On December 29 **Carl M. Deardurff, Sr.,** 72, died. Mr. Deardurff was owner of the Ohio Pennant Knitting Co. at Columbus, Ohio.

Charles L. Page, 75, president of Ideal Hosiery Mill, Philadelphia, Pa., died recently.

Robert A. Love, 72, a pioneer cotton mill official in North Carolina, died early in January at Mount Airy, N. C.

At the age of 82 **Joseph G. Farrell,** former manager of Spray Cotton Mills and a member of the board of directors, died in Leaksville, N. C.

William C. Taylor, 57, died suddenly on February 6, in Greensboro, N. C. Mr. Taylor had been associated with the New York-New Jersey Lubricant Co. for 27 years

Edward H. Jones, 82, of Schindel-McDaniels Co., Inc., and previously with Pelzer Mfg. Co., died in Glen Ridge, N. J., after a brief illness.

On January 19 **Curt E. Forstmann,** 43, died as a result of a heart attack. Mr. Forstmann was president of Forstmann Woolen Co., Passiac, N. J., and chairman of the board of directors.

James Fulton Wiley, superintendent of Raylaine Worsted Mills, Inc., Manchester, N. H., died recently.

After a short illness, **John C. Udell** died at his home in Manchester, N. H. Mr. Udell was former personnel manager for Amoskeag Fabrics, Inc., and previously was associated with Pacific Mills.

WHAT THE TEXTILE MILLS ARE DOING

Additional machinery, including new finishing equipment, has been installed at the mill of **Worumbo Mfg. Co., Inc.,** Lisbon Falls, Me.

Park Woolen Co., Boston, Mass., has been chartered with capital of 500 shares of stock, no par value, to manufacture woolen goods. William A. Diamond is president.

A three-story addition, to be equipped for increased production, is underway at the plant of **A. & M. Karagheusian, Inc.,** Freehold, N. J.

Bids have been requested for a one-story addition to the building of **Max Pollock & Co., Inc.,** Groton, Conn., manufacturers of cotton and nylon thread.

A one-story building has been added to the property of the **Champion Textile Finishing Co.,** 4939 South Austin Ave., Chicago, Ill.

A contract has been let for a one-story addition to the plant of **William E. Hooper & Sons Co.,** 3502 Parkdale Ave., Baltimore, Md. The cost of this building, to be used for warehouse service, is reported to be $25,000.

A modernization and expansion program has been planned at **Richard Borden Mills Corp.,** Fall River, Mass., which is reported to cost about $1,000,000.

R. C. Swan Co., Keene, N. H., has announced the removal of its local spinning and carding mill and the Lowell (Mass.) Woolen Mills to Fitchburg, Mass., where operations of the two plants will be combined. They will be located in the Rollstone Worsted Mill building.

Commercial Textile Industries, Inc., 5862 12th St., Detroit, Mich., has been incorporated with capital of $15,000 to manufacture textile products of various kinds. The principal incorporator is Seymour Milgrom.

The Liberty Mutual Insurance Company Accident Prevention flag has been awarded to two weaving plants of **Burlington Mills Corporation.** Employees of the Altavista (Va.) Weaving Plant received the flag for

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

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Sterling Ring Travelers

POLISH

On a Ring Traveler, polish isn't just for looks.
Travelers start quicker, and the yarn runs smoothly.
With the polished surface acting as a lubricant, it takes longer for wear to show.
Moisture won't cause rust to form as quickly on polished surfaces.
Little things, but they count.

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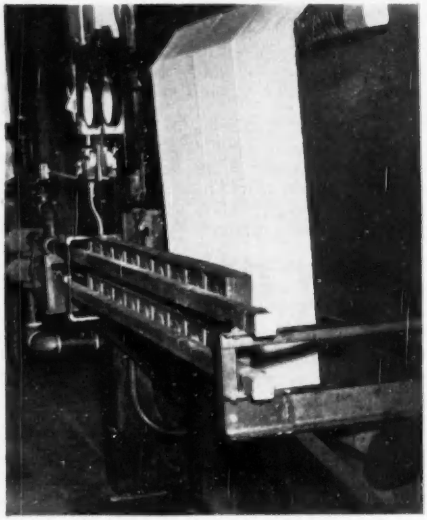
STERLING RING TRAVELER CO.
FALL RIVER, MASS.



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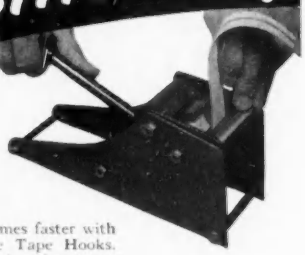
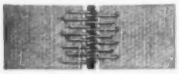
THE PRINCIPAL MILL SUPPLY HOUSES AND CARD MAKERS

10 TIMES FASTER THAN STITCHING!



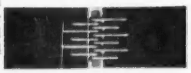
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

the third consecutive year. A safety record of operating one million man-hours without a lost-time accident has been established by the employees of Central Falls (N. C.) Weaving Plant.

An office at 432 Fourth Ave., New York, N. Y., has been opened by **Classe Ribbon Works, Inc.**, Anniston, Alabama. William F. Goedecke, former president of Burlington Mills Ribbon Corporation, will manage the new office.

Work is now in progress on the mill of **Carthage (N. C.) Fabrics Corp.**, which will have about 84,000 sq. ft. floor space. 480 looms and auxiliary equipment will be installed, with the entire project expected to cost about $500,000.

A one-story building has been leased by the recently chartered **Charlotte (N. C.) Plas-Tex, Inc.**, which will manufacture a line of plastic fabrics for drapery, upholstery, automobile seat covers, etc. H. W. McAllister, formerly with Chicopee Manufacturing Corp., Gainesville, Ga., is manager.

A new office building, reported to cost about $500,000, is being planned by **Carter Fabrics Corp.**, Greensboro, N. C.

J. E. McInnis, Laurinburg, N. C., is one of the incorporators of **Hunter and Co. of North Carolina, Inc.**, Rockingham, N. C., which has been organized with capital of $100,000 to manufacture plastic textile products for upholstery, drapery, etc.

Raybrook Mills, Inc., Central Falls, R. I., has been chartered with capital of 400 shares of stock, no par value, to manufacture rayon fabrics. Stephen A. Fanning, 116 Dexter St., Valley Falls, R. I., is the principal incorporator and representative.

Operation of a mill at Chesterfield, S. C., has been planned by **McLeod Narrow Fabric Corp.** John F. McLeod, Chesterfield, is president of the new firm, which will manufacture narrow fabrics, tapes, etc.

A general contract for a one-story building at Shawmut, Ala., has been let by the **West Point (Ga) Manufacturing Co.** The building will form a new unit for the company research division at Shawmut.

The former local factory of Norden Co., New Castle, Del., has been acquired by the recently organized **Delaware Mills, Inc.**, for a nylon processing mill. William G. Appleton is president and Walter Ingram, secretary and treasurer. Both men were formerly associated with the American Viscose Corp.

Modernization of a section of Mill No. 1, to provide a new spooler room, is being planned by **John P. King Manufacturing Co., Inc.**, Augusta, Ga.

Mortimer W. Newton is president of **Graylock Corp.**, Fall River, Mass., which has been chartered with capital of 500 shares of stock, no par value, for the manufacture of cotton and woolen yarns, and kindred products.

Kendall Co., Walpole, Mass., is planning a one-story addition to its dye mill at Griswoldville, Mass., to be used for warehouse service.

The former mill of **Garden State Hosiery Co.**, Midland Park, N. J., will be taken over at an early date by F. Schumacher & Co., 420 Madison Ave., Paterson, N. J. Their present mill at Paterson will be removed to the new location, where increased facilities will be provided for weaving goods used in the upholstery and drapery field.

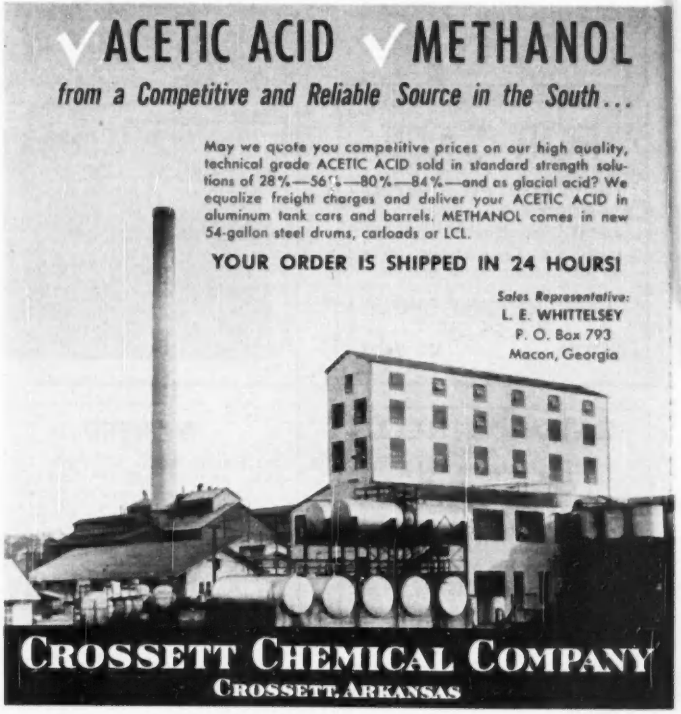
Extensions and improvements in the silk and rayon throwing mill of **Duffy Silk Co.**, 1270 Broadway, Buffalo, N. Y., are being planned.

Plans are under way for expansion and improvements in the mill of **Puritan Weaving Co.**, Fayetteville, N. C., an affiliated interest of **Burlington Mills Corp.** There will be a one-story addition for extensions in the weaving department, with new looms to be installed for increased production and replacements.

Having closed its mill at Minneapolis, Minn., the **North Star Woolen Mill Co.** will concentrate its production at its plant in Lima, Ohio, where expansion has been under way to double its former capacity.

An expansion and modernization program, estimated to cost about $40,000, has been authorized by **Alco Manufacturing Co.**, Rockingham, N. C., a subsidiary of M. Lowenstein & Sons, Inc., 43 Leonard St., New York, N. Y.

The New York sales office of the **Hathaway Manufacturing Co.**, New Bedford, Mass., will be moved to a building at 100 Park Avenue, now nearing completion.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Suited for industrial, commercial, construction or agricultural use; ideal for stand-by service. Will sell at $900, which is less than half its initial cost. Address Box 352, c/o TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Ga.

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36—40" H & B Cards, 100/110 wire, 12" Coilers.
24—Deliveries Saco-Lowell Drawing, metallic rolls, 1920 and 22 models, 6 delivery frames.
1—Kitson single process picker, 3 beater Aldrich Synchronizer.
100M—Spinning spindle bases, band and tape
100M—Spinning spindles, band and tape
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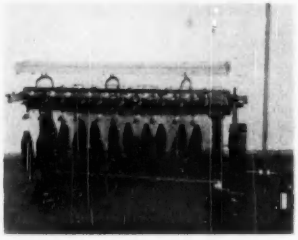

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NEW ENGLAND PRODUCTS CO.
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Practical mill man desires position as assistant overseer or second hand of cotton ring spinning. Twenty-two years experience with various well known mills. Character and ability references available. Reply to Box No. 369, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

WANTED

Position as overseer of Spinning: Age, 47; ICS graduate; good manager of help. Reply to Box No. 370, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

POSITION WANTED

As second hand in slasher or spooler department or both. Have about 20 years experience on plain and fancy colored work, the last several years as second hand on old type and modern type machinery. Can furnish good references. Sober and good manager of help. Experienced with both union and non-union help. Reply to Box No. 362, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Ga.

POSITION WANTED

Overseer of cotton spinning or cotton and rayon twisting. Have over 20 years experience. Sober and good manager of help. Reply to Box No. 363, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

POSITION WANTED

Experienced supervisor of carding and spinning on cotton or spun rayon. Good references. Reply to Box No. 364, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

Cost and Production Supervisor desires position as Assistant Superintendent, Cost Accountant or Overseer of Spinning. I.C.S. and LaSalle Extension University training. 12 years experience as Cost and Production Supervisor, Assistant Superintendent and Overseer Spinning. Best of references. Reply to Box No. 365, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Ga.

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Wants position with progressive firm. Excellent background. Best of references. Years of successful experience in cotton and worsted. Conversant in all phases of manufacturing from the raw fibre to finished fabric. Reply to Box No. 366, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Ga.

POSITION WANTED

As overseer of weaving in Southern mill. I.C.S. graduate with 13 years experience in weaving. Two years in handling employees. Satisfactorily employed at present but will consider change. 28 years old, married. Reply to Box 367, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

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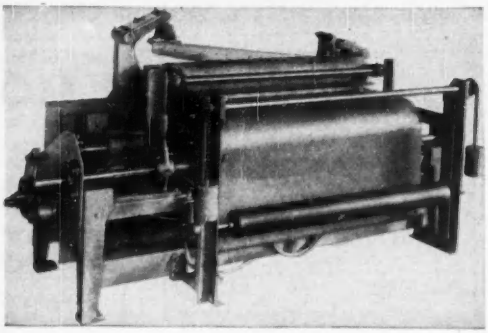

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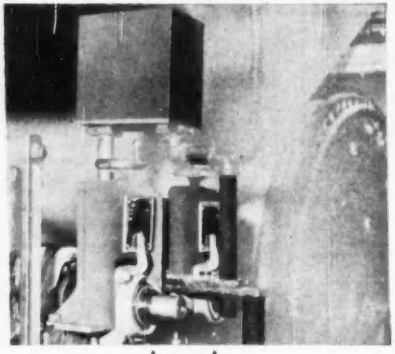

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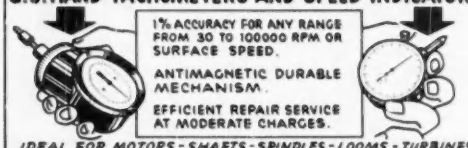
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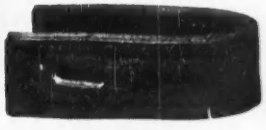

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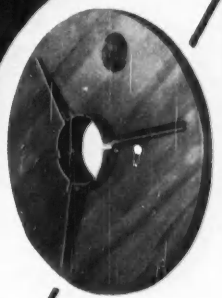

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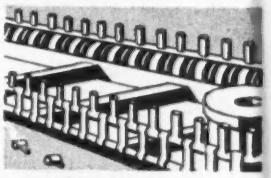

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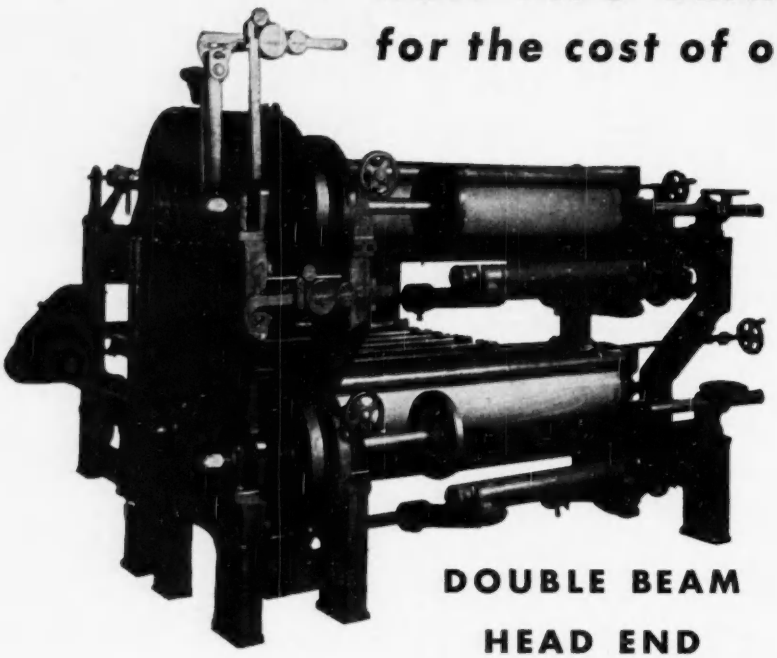

DOUBLE BEAM
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Slasher Modernization Equipment

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Special Textile Machinery and Repair Parts

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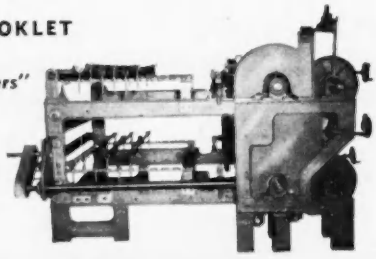

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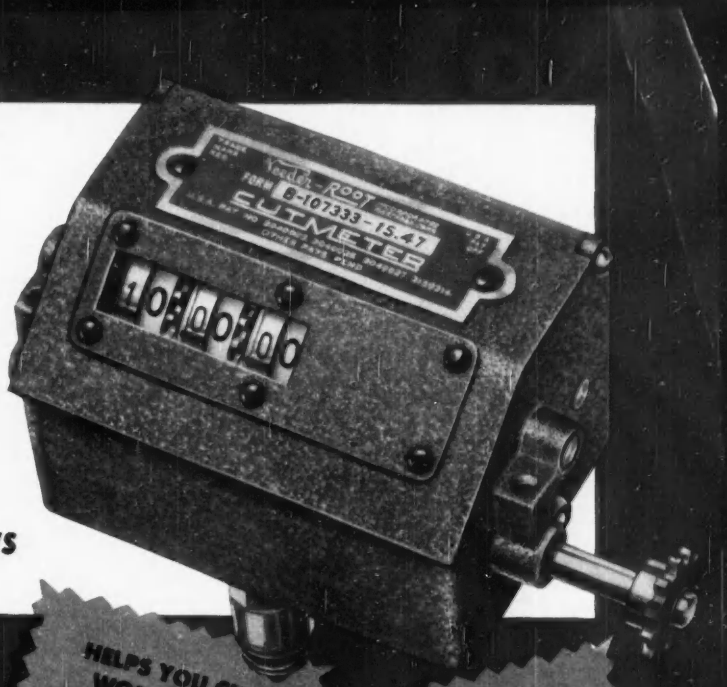

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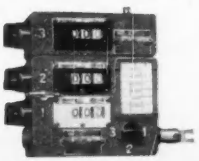

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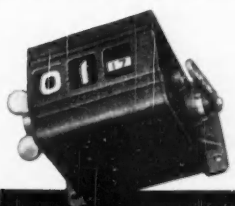

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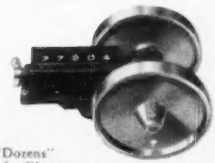

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